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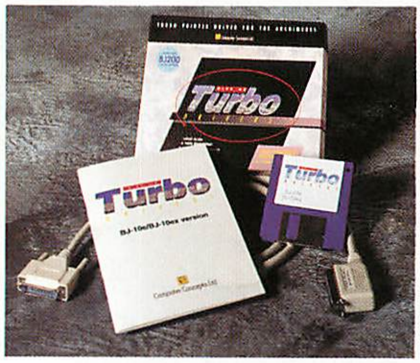
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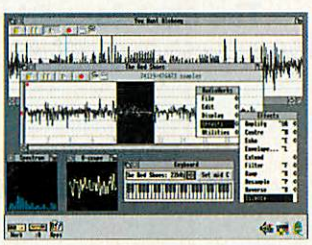
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Editor's letter

Since we introduced the *Acorn User* cover disc back in October of last year, we've provided you with some excellent software, but *HomeWorks*, our integrated package starting on this month's disc, is our best yet.

If you collect all five parts – document designer, graphing package, spreadsheet, database and the final linking code – you will have a formidable package, worth far more than the cost of five magazines. And if you register, which is highly recommended, then you will receive much more: this really is the best application ever to appear on an Acorn cover disc.

There's also an exciting new product from Acorn reviewed this month: the Pocket Book II. Every criticism of the original Pocket Book has been addressed by Acorn, and being a Pocket Book user, I wholeheartedly recommend the new machine to everyone, not just Acorn users.

Mark Moxon, Editor

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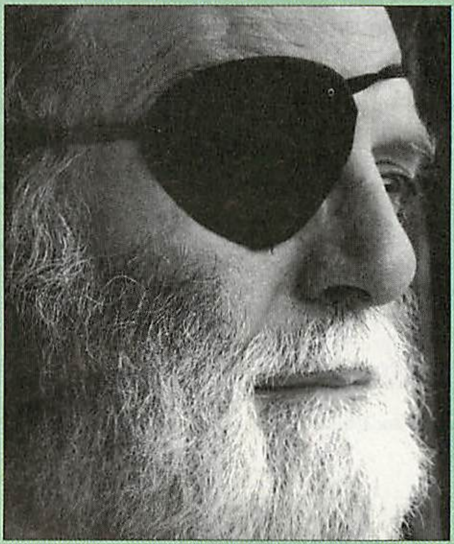
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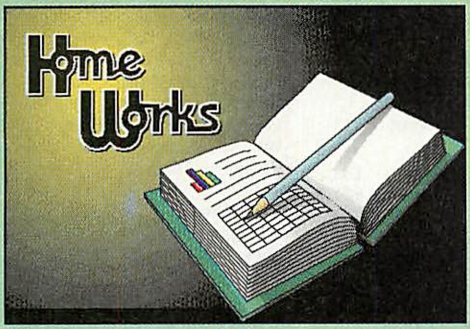


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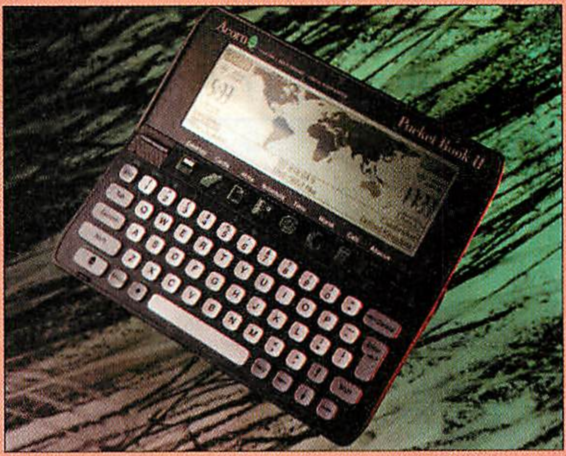
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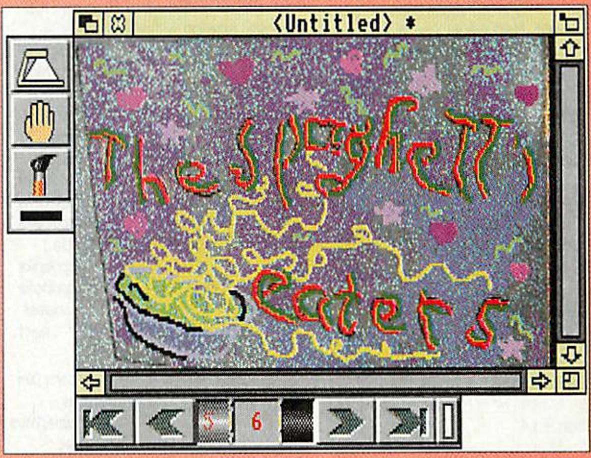


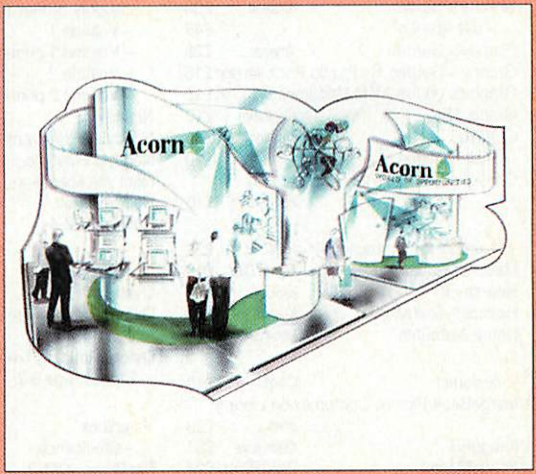












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A305/310/440 1-2 Mb ‡	IFEL	£83
A305/310/440 1-4 Mb soldered with MEMC1A ‡	IFEL	£152
A5000 2-4 Mb †	IFEL	£70
A5000 2-8 Mb including fitting	Atomwide	£500
A5000 4-8 Mb including fitting	Atomwide	£391
A540 4 Mb †	Acorn	£238
Risc PC 1 Mb VRAM	Acorn	£127
Risc PC 2 Mb VRAM	Acorn	£195
Risc PC 2 Mb VRAM	HCCS	£148
SIMM 2 Mb 32 bit		£POA
SIMM 4 Mb 32 bit		£POA
SIMM 8 Mb 32 bit		£POA
SIMM 16 Mb 32 bit		£POA

SCANNERS, DIGITISERS . . .

Item	Supplier	Price
Eagle M2	Wild Vision	£310
GreyHawk	Wild Vision	£98
Hawk V9 MkII	Wild Vision	£195
– A3000 Series		£195
Scan-Light A4	CC	£277
Scan-Light 256	CC	£185
– A3000 External	CC	£190
– A3000 internal	CC	£190
Scan-Light Video	CC	£199
Scan-Light A3000/A4000	CC	£199
Vision 24	HCCS	
– A3000/3010/3020/4000 internal		£96
– A3000 external		£109
– A5000/400/300/RPC600		£96
Vision 24 508 line	HCCS	
– A3000/3010/3020/4000 internal		£134
– A3000 External		£147
– A5000/400300/RPC600		£134

PRINTERS . . .

Item	Supplier	Price
A4-1200/1 Direct Drive Laser Printer	Calligraph	£989
Bubble Jet BJ-10sx	Canon	£155
Bubble Jet BJC-800 + TurboDriver	Canon/CC	£1219
DeskJet 500C	Hewlett-Packard	£279
DeskJet 520	Hewlett-Packard	£219
DeskJet 560C	Hewlett-Packard	£399
Laser Direct HiRes4	CC	£748
– 250-sheet Paper Cassette		£99
Laser Direct HiRes8	CC	£1049
Laser Direct HiRes Board	CC	£325

SUNDRY . . .

Item	Supplier	Price
486 PC Card 25 MHz 4 Mb	Aleph One	£514
486 PC Card 25 MHz Bare	Aleph One	£357
486 PC Card 50 MHz 4 Mb	Aleph One	£591
486 PC Card 50 MHz Bare	Aleph One	£434

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Item	Supplier	Price
A300/400 Fan kit	ICS	£15
A305/310/440 RISC OS 3 Carrier Board ‡	IFEL	£19
A5000 Fitting Kit for second hard disc	ICS	£15
Backplane, 4-slot 4-layer with fan	IFEL	£55
Case Upgrade only for Risc PC 600 2M and 5M	Acorn	£98
ColourCard Gold	Wild Vision	£235
– A3000 External	Wild Vision	£235
Dongle Dangle with screw fittings	ICS	£6
EPL Toner Cartridge for LBP-4		£59
EP-SII Toner Cartridge for LBP-8		£69
Ethernet Network Interface Card for Risc PC 600	Acorn	£98
Fan filters (pack of 10) (not A5000)	ICS	£6
Floating Point Accelerator (A5000 + A540)	Acorn	£93
ideA Removable Hard Disc Fitting Kit for A5000	ICS	£25
Lark A16	Wild Vision	£195
Micro Mouse	Clares	£24
Midi Max	Wild Vision	£68
Monitor Stand for A3000	ICS	£25
Mono/SCSI	Atomwide	£48
Pc Card (incl Novell DR DOS) for Risc PC, special offer	Acorn	£99
Power Pad (Dual)	GamesWare	£33
Power Pad (Single)	GamesWare	£25
Power Stick	GamesWare	£25
Power Switch	GamesWare	£17
Printer Paper A4 Colour, 500 sheets		£40
Printer Port Sampler	Vertical Twist	£39
Printer/SCSI	Atomwide	£74
Revolution CD-ROM	Morley	£295
Revolution Pro (for SCSI system)	Morley	£435
RISC OS 3 Software Upgrade Kit	Acorn	£77
Seal 'n Type spill-proof Keyboard Covers		
– Archimedes / A5000	Kador	£14
– A3000	Kador	£14
SVGA Multiscan ES Monitor 14"	Acorn	£320

ICS

051-625 1006

Item	Supplier	Price
SVGA Multiscan PS Monitor 17"	Acorn	£990
SVGA Multiscan Monitor 14"	Acorn	£315
– bought with computer		£250
Ultimate CD ROM Dual Speed for Risc PC 600	HCCS	£198
Ultimate CD ROM Dual Speed, MultiPodule (needs PSU upgrade)	HCCS	£223
Wizzo IDE Filing System on rom	ICS	
– Wizzo4 for A4 – now available		£39
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Wizzo SyQuest Complete Package		£295
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Superior Golf • Zarch
Zool

**not suitable for Risc PC*

For ordering details please turn to page 3

ICS

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Cheques should be made payable to Ian Copestake Limited.

Credit cards are welcome. We do not charge your account until your order is fulfilled. Your name and address must be as known to the credit card company. If you are leaving an order on our answering machine please include your telephone number, the expiry date of your card, and your calculation of the total payment due. We will make no charge for credit card commission unless we have informed you first.

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All products, prices and specifications are offered in good faith and are subject to change without notice. We process all orders immediately, but suppliers do sometimes keep us waiting. Goods are guaranteed but we do not supply them on approval. Returns and cancellations can only be accepted by prior agreement and there may be a charge to cover the costs involved.

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ColourBurst	£335
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Freddy's Folly (not OS3)	£4
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Graphics Library	£4
History Costume	£5
Impact!	£32
Impression Business Supplement	£12
Karma	£15
Last Days of Doom & Hezarin	£14
Monotype Fonts (Pack 1)	£50
Nebulus	£14
Noot	£35
Note Invaders	£16
Oh No! More Lemmings (requires Lemmings)	£13
Omar Sharif's Bridge (not Risc PC)	£18
PlayBack	£15
ProArtisan 2	£78
Real McCoy 3	£18
Real McCoy 4	£18
Revelation ImagePro	£105
Rhythm-Bed	£34
Round the World Yacht Race	£23
Scan-Light Professional + SCSI Interface	£599
Schedule	£15
Science	£18
Serenade	£64
Smudge the Spaniel	£17
Split an Image	£14
Technodream (Nevryon 2)	£16
TinyPuzzle	£16
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Online Media spin-off

ACORN Computers is beginning to reap some benefits from the new Acorn computer group Online Media initiative launched in July. A core technology of the Online Media interactive multimedia set top box is MPEG digital movie playback capability.

This was co-developed by Computer Concepts/Wild Vision, Anglia Television and Acorn and has now been officially added to the Codec (coder-decoder) repertoire of the Acorn *Replay* digital movie system.

MPEG *Replay* was shown publicly for the first time at the recent Interactive Learning Show '94. As Peter Bondar remembers, Acorn was one of the first into video multimedia: 'Advanced multimedia capability has been a priority for Acorn since the first multimedia project in this country, The Domesday Project in 1984.

'In addition to the exceptional video and graphics capability announced at the launch of the Risc PC in April, users can now benefit from a further selection of video formats, including Video CD.'

Applications which work with *Replay* will now be able to play back near-VHS quality full motion video MPEG sequences at up to full-screen size.

Mike O'Riordan, Acorn's sales and marketing director, added that the enhancement to *Replay* would be important in Acorn's traditional education market.

'MPEG will allow schools to take advantage of the increased amount of TV-quality video contained in CD-Rom and other software.

Multimedia authors will provide a new generation of interactive multimedia applications,' he said.

ArcPCB for the Risc PC

SILICON VISION'S *ArcPCB* electronic design automation tool-set has been enhanced for the Risc PC. Tools range from £59.95 to £275 + VAT and cover PCB layout, analogue.digital PCB layout, schematics and PCB layout combined, photoplotting, NC drilling and a new 100% rip-up retry track routing utility (*PowerRouter v1.6*).

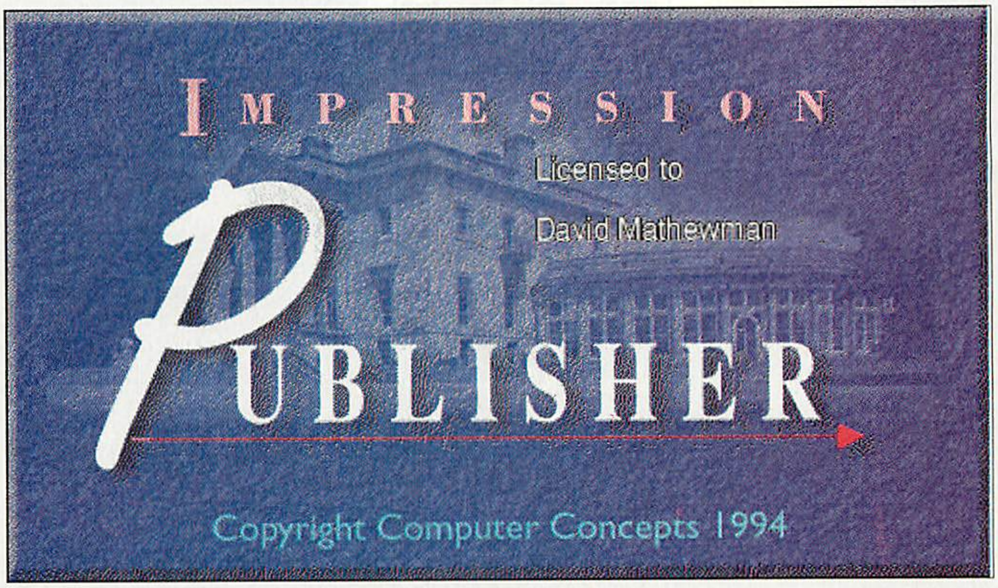
The same tools are Risc OS 3.1 compatible for older machines. For more details, contact Silicon Vision on 081-422 3556 or fax 081-248 3589.

CC's new products for Acorn World

COMPUTER CONCEPTS' long anticipated new additions, *MacFS* and the new 24-bit ScanLight Professional outfit have been released.

At the same time, CC has previewed seven other new products which should be ready in time for the Acorn World show at the end of October.

CC's much-rumoured foray into the PC software world has also been revealed publicly for the first time.



Impression Publisher Plus will be ready for the Acorn World show

MacFS is a utility which enables a Risc OS computer to read and write a variety of Apple Mac disc devices, and was primarily developed for users of *Impression Publisher* who often need to exchange files with Mac publishing systems.

MacFS is compatible with SuperDrive high density floppies, removable external hard drives and optical cartridges. It is also capable of formatting Mac floppies.

The utility integrates neatly into Risc OS and appears as an extension to the normal Risc OS filer.

MacFS is priced £99 + VAT and is suitable for Acorn machines fitted with Risc OS 3.1 or higher and a high density floppy drive.

The new colour ScanLight Professional package looks outwardly similar to the long-serving monochrome one, but inside the familiar looking SCSI Canon IX-4015 A4 flatbed scanner case is a fast 24-bit colour mechanism which can be stretched to 800dpi for colour scans and 1200dpi in monochrome.

CC chose to bundle the new scanner with SpaceTech's *Photodesk* paint and retouching package – apparently favouring its user interface over the rivals like *DA's Picture* from Digital Arts. TWAIN driver support for the Canon unit is included.

ScanLight Professional Colour is priced £749 + £10 P&P + VAT and the original monochrome version has been reduced to £499 + £10 P&P + VAT. New CC products to be readied before Acorn World include *Publisher Plus*, the version of *Impression Publisher* which includes OPI publishing document support, EPS PostScript support, spot colour and named colours, all of which are aimed firmly at the publishing world.

Next on the list is a TV Tuner and Teletext card which works in conjunction with the CC/Wild Vision Eagle card, showing TV in a Risc OS window.

Then there is the Risc PC MPEG digital video board detailed in the article above, which can play back Video CDs and is a product of Wild Vision's involvement in the Online Media interactive multimedia project with Acorn. Other new items will include the second *ArtWorks* Clip-Art CD-Rom, *TurboDriver* and LaserDirect network spoolers, *Formulix* – an improved replacement for the *Equasor* mathematical formula and equation editor – and, finally, a new original Risc OS outline font family called Obscura.

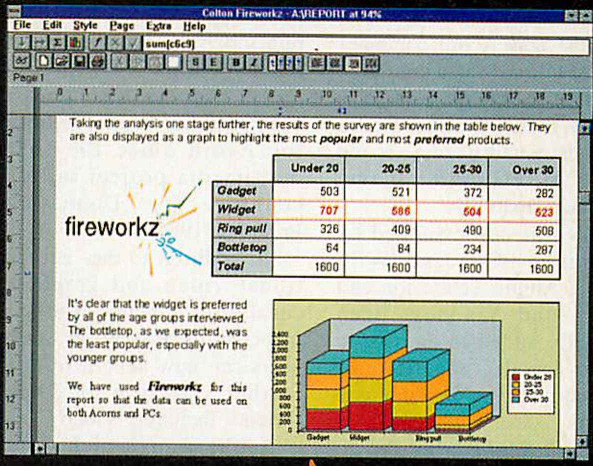
For more information contact Computer Concepts on (0442) 63933, Fax (0442) 231632 or e-mail info@cconcepts.co.uk.

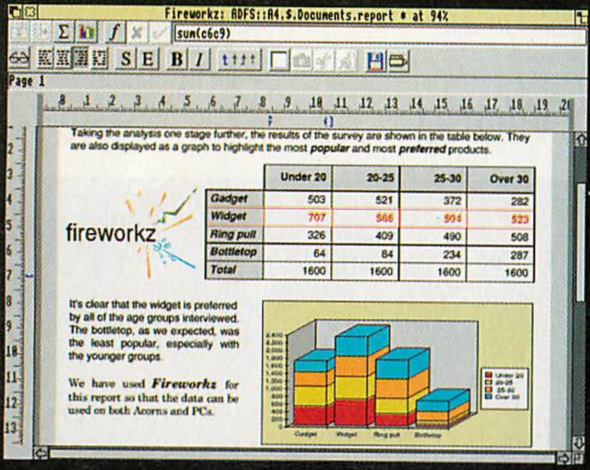
£149 worth of Fireworkz for £99

Until September we're doing a very special offer for Fireworkz. Over the summer period we've reduced the price from £149 to £99. You can buy a secondary site licence for £396 instead of £596.

Fireworkz

Our superb integrated program which incorporates the Wordz wordprocessor and Resultz spreadsheet really is easy to use. The wordprocessor and spreadsheet share the same controls so that once you've learned one you know the other. The table editor in the wordprocessor is second to none and you can include spreadsheet calculations inside the table. To make a live graph you just swipe the figures in the table with the mouse and press the graph button. We've never seen editing formulas any simpler either: adding up numbers is just a point and click operation.





Fireworkz for Windows is now available

We've spent the last few months on the next stage in the Fireworkz project: the Windows version. This is now available, also at the special price of £99. If you already have the RISC OS version, you can add the Windows version for £50. If you have both Acorns and PCs you can now work on your files on either machine. You can even use the same floppy disc. Fireworkz for Windows can load Lotus, Excel and RTF files. Fireworkz is the only choice, if you plan to buy PCs in the future.

Recordz & Fireworkz Pro

Fireworkz Pro is coming later this year. This incorporates Recordz, the next major piece in the jigsaw: it's a fast and friendly database with card layout, searching and sorting. It uses DataPower format files amongst others, shares Fireworkz' wonderful user interface and can exchange data with the spreadsheet.

fireworkz ® © TM 1993...4...

ClassCardz

In conjunction with Bretton Woods School, we've been developing teaching cards for Wordz and Resultz. These are now available for £20. You get a set of A4 laminated cards which you can photocopy. These take you through the first steps with Wordz and Resultz: creating and editing documents in a wordprocessor and spreadsheet.

They're a must for all teachers.

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Risc Developments RIP

RISC Developments Limited has been placed into voluntary liquidation.

Risc Developments, originally Beebugsoft, was the sister company to Beebug Limited and out of the two, was responsible for producing own-brand hardware and software – such as *Easy C*, *Ovation* and *Hearsay* – plus the subscription magazines, *Beebug*, *Risc User* and just recently *Acorn Action*.

Four staff have been left without jobs. Until now, Beebug Limited has concentrated on being an Acorn dealer and outlet for Risc Developments' products and other general computer supplies and peripherals.

Co-founder and managing director, Sheridan Williams explained that the winding down of *Beebug* magazine, which was produced purely for the dwindling number of BBC Micro enthusiasts, left the company with a deficit of £50,000 which it couldn't guarantee to trade out of in a reasonable period.

Problems came to a head after it was announced that *Beebug* was to close. Risc Developments chose to honour the remaining subscriptions, with undiminished editions until the end of Volume 12.

With no renewal subs coming in for a year, *Beebug* magazine had to be subsidised heavily.

According to Williams, there are no major creditors other than Beebug Limited.

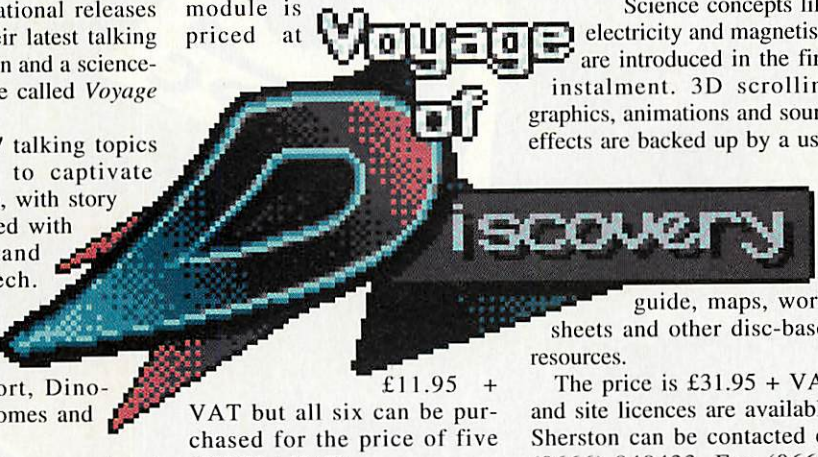
Risc User magazine has been taken over by Beebug Limited and will continue to be published normally, but there is a question mark over the new *Acorn Action* title which will have to be settled soon if the next scheduled issue is to be produced in time for October's Acorn World.

The pick of Risc Developments' hardware and software products will be taken on and developed by Beebug Limited as well.

The Beebug shop premises in St. Albans remain unaffected by the changes. Beebug Limited can be contacted on (0727) 840303.

Sherston education news

SHERSTON SOFTWARE have two new educational releases this month, their latest talking book publication and a science-based adventure called *Voyage of Discovery*.



Look! Hear! talking topics are designed to captivate young children, with story telling enhanced with animations and digitised speech. The first volume covers The Seaside, Land Transport, Dinosaurs, Pets, Homes and The Body.

Look! Hear! was produced with the help of best-selling author, Simon Hosler. Each pack contains two discs, a guide for both teachers or parents and worksheets. Each module is priced at £11.95 + VAT but all six can be purchased for the price of five (£59.75 + VAT).

Voyage of Discovery was produced with Arcventure series author Mark Vanstone, and is based on the voyages of spaceship Discovery.

Science concepts like electricity and magnetism are introduced in the first instalment. 3D scrolling graphics, animations and sound effects are backed up by a user guide, maps, worksheets and other disc-based resources.

The price is £31.95 + VAT and site licences are available. Sherston can be contacted on (0666) 840433, Fax (0666) 840048. From September 5th, Sherston is moving to: Angel House, Sherston, Malmesbury, Wilts, SN16 0LH.

Networked e-mail and beyond

SUPREME Software Systems Ltd has launched an AUN ethernet or econet network-compatible e-mail and conferencing system called *Archiboard*.

The development of *Archiboard* has taken place over four years, according to Supreme Software. A server machine is required for users to log into using a special client program.

Once in, users have access to personal electronic mail and public bulletin boards or conferences. User to user file transfers are also possible.

External mail and even conference access can be added through either a Fidonet or Internet gateway, the former being as cheap as a local off-peak call once a day for exchanging mail items with the local public Fidonet bulletin board.

Archiboard looks ideal for schools – the prompts and the general look and feel of the bulletin board are all re-programmable.

The system is said to be very easy to set up and maintain, which will surely be a major consideration for schools.

Network *Archiboard* is priced at £89 or £79 to educational establishments.

Further information can be obtained from *Archiboard* by ringing (0603) 745077.

Better disc cataloguing

A new version of Oregan Developments's *DiskCat* automated disc cataloguing system for Risc OS is now available.

New features and Risc PC compatibility are contained in the new release, which is selling for £19.95.

Upgrades for existing users are available for £5 upon receipt of an original program disc. Oregan can be contacted on 021-353 6044.

Onward christian users

Rev. Colin Randall, Rector of Hanborough & Freeland, has written to *Acorn User* about a new organisation called the Christian Acorn Users Group (CAUG).

Those interested will get a newsletter twice yearly containing experiences and advice on using Acorn computers, with a spiritual slant.

Rev. Randall has an A4000, *Impression* and a hand scanner, which he has been using for 18 months.

Enquiries should be addressed to The Rectory, Swan Lane, Long Hanborough, Witney OX8 8BT.

Keystroke updated by Quantum

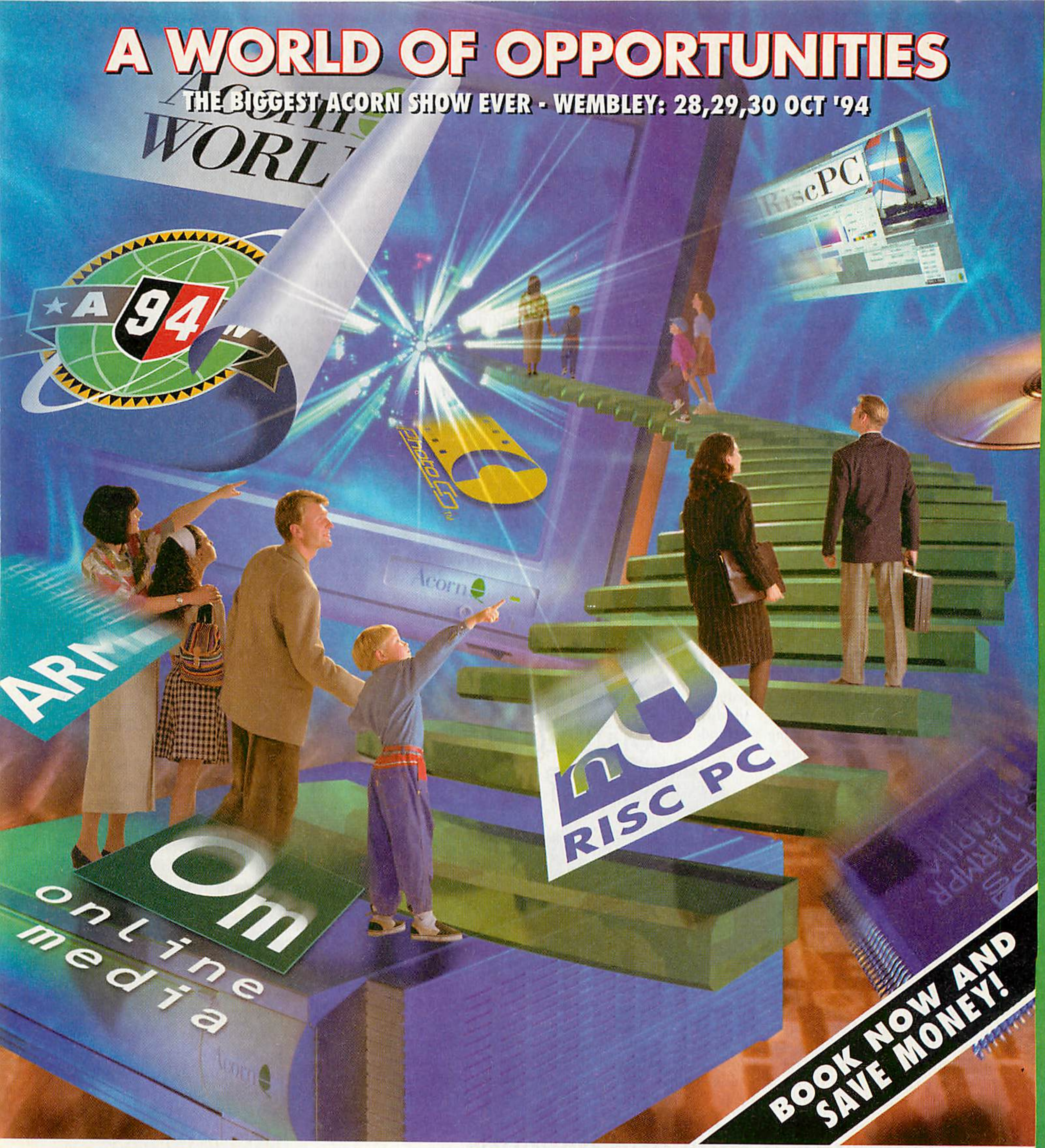
Quantum Software has updated its *Keystroke* text and mouse macro-making utility.

The original version has proved very popular with users, and their suggestions have helped the update.

Version 3.05 has been re-written to make it easier to use and to make it compatible with more applications.

The list now includes programs from Computer Concepts; *Impression Style*, *Publisher* and *ArtWorks*.

A PD demonstration disc is available to introduce *Keystroke*'s features to new users. *Keystroke* 3.05 is priced at £29.95. For more information and upgrade prices (according to the version users already have) contact Quantum Software on (0506) 411162.



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Shadow Air Muscle Kit

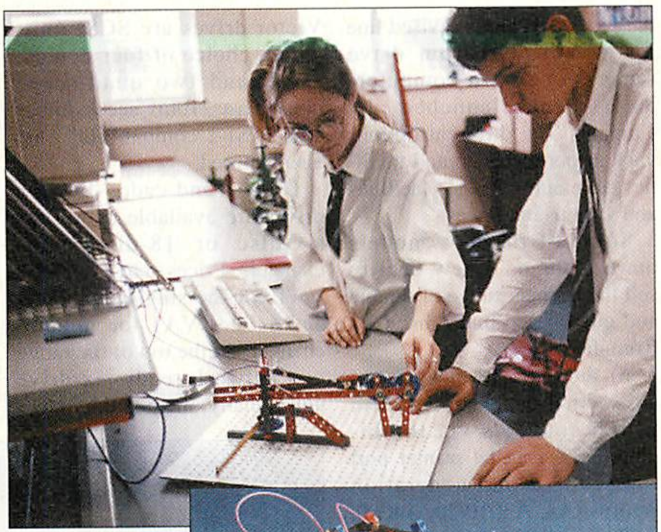
THE Air Muscle Kit from the Shadow Robot Project, mentioned in the August edition of *Acorn User*, has been reduced substantially in price from £499 to £299 + VAT with the help of economies of scale in production.

The kit uses pneumatic 'muscles' which can be attached to a mobile frame in a variety of arrangements.

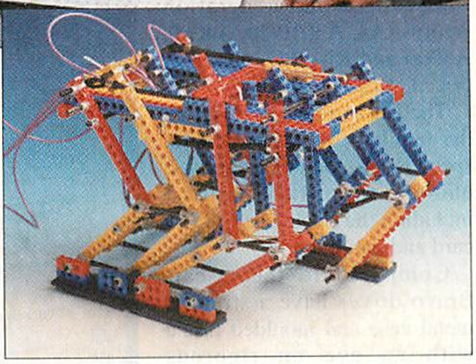
For example, a 15-year old was able to build a four legged walking machine using Air Muscle parts.

Schools are beginning to take interest in the kit which is being used as part of the Engineering Council's Technology Enhancement Programme, or TEP.

The kit's Graphical Control software was developed from scratch under Risc OS, and the project is the mastermind of Richard Greenhill, whose son, Sam, used to be *Acorn User*'s games editor. For more information, ring 071-700 2487 or fax 071-607 7151.



Above: the Air Muscle Kit is beginning to be used in schools



Right: your four-legged friend, as built by a 15-year old using the Air Muscle Kit

Integral CD-Rom

THE Risc PC 600 CD should be available about the time this issue of *Acorn User* is published. This is a normal Risc PC machine with an integral double-speed CD-Rom drive supplied for Acorn by Cumana.

The drive, called the Acorn 300i CD-Rom, is both Risc OS and PC compatible and can access Photo CD discs.

When the Risc PC 486 co-processor card is released in the fourth quarter of 1994, there will be a driver to enable it to work with MPC II multimedia CD-Roms.

The CD-Rom interface works via the IDE hard disc drive controller and leaves all spare expansion slots unused.

At £199 + VAT over the Risc PC purchase price, the drive is one of the cheapest yet available for the Risc PC.

Acorn recognises that early owners of Risc PCs might want a 300i as well and from the beginning of October until 23 December only, those who have had their Risc PCs since before the beginning of September will be able to have a drive fitted by their local dealer for the same £199 + VAT cost.

Cumana sells a similar package to the Acorn one, the 300ia, but this also includes a special audio interface to enable both computer and CD sound to be channelled through the computer's speaker/headphone socket.

Cumana's CD300ia is priced at £249.95. Acorn's move looks positive, but a representative for a well-known third-party Acorn software house wasn't so encouraged.

'What we need to see is Acorn's commitment to fit a CD-Rom drive as standard,' they said, implying that without this support it would be difficult to grow the generic CD-Rom software industry for Acorn machines.

Another problem is that PC owners can obtain a similar drive to the Acorn 300i for almost half the cost. CD-Rom on the Acorn platform has a long way to go.

CD-Net promoter

CUMANA has appointed multi-platform education network server specialist, Mike Frisby, as technical sales manager. Frisby, formerly a senior IT advisor to HM Prison Service, will be responsible for promoting *CD-Net*, a software package developed by PEP Associates to improve the accessibility and speed of CD-Roms hung off schools AUN networks.

'Slow access to CD-Rom drives on a network has, to date, been a stumbling block for many schools eager to make effective use of the exciting vehicle for learning which multimedia provides.

'With the introduction of this breakthrough product, CD-Net, we can put this right,' commented Frisby.

Another of his many responsibilities will be the development of a Risc PC-based CD-Rom server for Acorn networks.

The return of Mike

Mike Williams, who recently left *Risc User* magazine and had a long spell on *Beebug* magazine, has set up his own publishing house dedicated to Acorn computer users.

The new company is to be called Akalat Publishing and one of its new products will be InfoGuides to help choose and use an Acorn computer system.

Akalat Publishing can be contacted on (0582) 881614.

Fireworkz

Colton Software has released its Microsoft Windows version of the integrated *Fireworkz* spreadsheet and word processing suite. *Fireworkz for Windows* is file compatible with the original Risc OS version.

Now it's released, Colton Software will be able to resume development of the Risc OS version. Colton Software can be contacted on (0223) 311881.

More Arm processors

The original fabricator of Arm processors, VLSI technology, has announced two new Arm models; an enhanced Arm610 and an Arm710.

VLSI's new 610, called the VY86C610C-5, is a 5V device which runs at 33MHz, slightly faster than the similar chips used in Risc PCs at present.

At this speed the 610 returns 28mips and dissipates 500mW of heat.

The VY86C710 is a 40MHz 710 which returns 34mips and generates the same 500mW of heat as the slower 610.

At 3.3V and 25MHz the 710 generates just 150mW of heat operating at 21mips.

Cheaper tablets

First Computer Centre in Leeds is now supplying the Tabby graphics tablet for Acorn computers, prviously available for Atari and PC users.

The tablet is priced at just £68.08 + VAT and delivery and connects via the computer's serial interface.

First Computer can be contacted on (0532) 319444 or fax (0532) 319191.

Longman Logotron multimedia deal

Longman Logotron has signed distribution deals with the American multimedia specialists 7th Level and UK-based Software Toolworks.

Longman Logotron has produced a CD-Rom catalogue and is offering a free CD-Rom for orders placed before Christmas. The CD-Rom catalogue is available from Longman Logotron by phoning their information line on (0223) 425558.

Plymouth Acorn show

David Heath has contacted *Acorn User* to say that he is planning an Acorn computer show at the Plymouth Pavilions for this December, though planning hasn't yet been finalised.

David asks that if any companies are interested in exhibiting, could they contact him on (0752) 781286 or write to him at 26 Luxmore Close, Leigham, Plymouth, Devon PL6 8NX.

Saving paper

Printing costs are not insignificant. Ink-jet printers, especially colour ones, can see costs reach well into the tens of pence per sheet. Sometimes it seems like a good idea to issue printing quotas to, for example, pupils in a classroom.

The idea is that less junk and more considered work gets printed, so less paper and other consumables are wasted.

The solution could be PTW software's latest offering called *PaperSaver*.

Individuals, groups or classes can be allocated page printing quotas – use your quota up and that's your lot for the day's printing.

PaperSaver works on shared network printers using *Printers* or *ClassPLD* and works with LaserDirect. PTW claims the utility is cheat-proof and is completely transparent to the user – until that quota runs dry, of course.

PaperSaver is priced at £17.95 including VAT. For more details ring (0329) 281930.

Cumana CD-Rom drive options

NEW models and a revised line up of new CD-Rom drive ranges for Acorn computers have been launched by Cumana. The different options vary in performance and facilities, like auto-changer facilities and various interfaces.

Some of the new models mark Cumana's new deal to sell the Pioneer range of double and quad-speed multi-disc CD-Rom drives.

At the entry-level is Oscar, an external double speed drive which connects via the bi-directional parallel printer port found in second generation Acorns (A4, A3010/20, A4000, A5000 and Risc PC). Oscar is priced at £229 + VAT.

The Bravo range is based on the familiar 300-series double-speed Panasonic drive but has a choice of interface options, including the established SLCD card and parallel port.

Compared to the Oscar, Bravo drives have a stronger metal case and moulded fascia with an eye on rigorous classroom use.

CD and computer audio can be mixed, so avoiding the need to change audio leads. Bravo drives are priced £299 + VAT.

Victor drives are SCSI units with a choice of four double-speed and two quad-speed units. Fast 210ms access times and SCSI-2 compatibility are also featured.

Drawer and caddy-loading drives are available as well as six-disc or 18-disc auto-changers. Prices start at £299 + VAT for the single disc units and £499 + VAT for an auto-changer. At the top of the range is a network-ready six-drive unit. Finally, there is the Indigo range for Risc PC users, which includes four internal IDE or SCSI drive options, similar in performance specification to the single-disc Victor units.

An internal caddy-loading CD-Rom drive means the Risc PC base unit can be used in sideways mini-tower mode, unlike ordinary tray-loading drives. Indigo units start at £199 + VAT.

Cumana can be contacted on (0483) 503121 or fax (0483) 451371.



The massive 18-disc autochanger Victor CD-Rom drive from Cumana

Low cost CD-Rom mastering

A SPECIAL offer on CD-Rom mastering is being offered by Eesox in Cambridge. Write once ISO 9660 CDs can be mastered for as little as £30 in data backup form or £60 for application CDs.

The offer is limited to one order per customer until the end of October.

CDs can normally be produced within 24 hours. Eesox has also extended its *CDFast* cacheing software for CD-Rom drives for use on networks.

NetCDFast will work on any network installation which includes a standard Acorn CD-Rom drive or compatible.

NetCDFast will apparently operate close to the bandwidth of the network, so can be indistinguishable in performance from a networked hard disc.

Typical performance gains are represented by a four-user search of the Acorn Education Directory CD-Rom being speeded up by one and a half times.

A *NetCDFast* site licence is priced at £130 and a *CDFast* to *NetCDFast* upgrade is £110. Upgrading from an existing *CDFast* site licence to *NetCDFast* is priced at £55. Eesox can be contacted on (0223) 264242.

Son of Pocket Book

IF you thought the original Acorn Pocket Book personal organiser computer was good, you'll love the new Pocket Book II.

Unlike the original Pocket Book which was a much re-packaged beast, the new machine is practically identical in function to the acclaimed Psion Series 3a it is based on. Pocket Book II has added extras over its Psion stablemate and remains competitively priced. Improvements include a larger, sharper and higher resolution LCD screen, faster processor, memory up to 512K, more and better built in applications, a digital sound recorder, telephone tone dialing and compatibility with the new Psion 3Fax fax modem.

For full details read the full review on page 50. The old Pocket Book (Mark I) 256K remains on sale at £199.69 inc VAT while the new models are priced as follows (all inc VAT): Pocket Book II 256K £269.95, Pocket Book II 512K £329.95. Acorn Computers can be contacted on (0223) 254254.

easy *to understand*

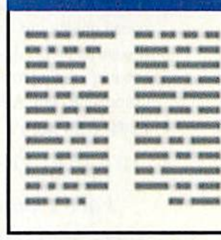
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easy *to use*



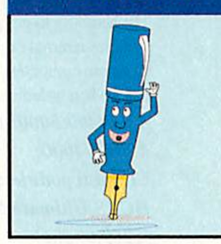
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the Acorn RISC computers

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£249 + £6 p&p + VAT (£299.62 inc).

GOLD REVIEW:

"I don't know how I ever survived all those hours squinting and scrolling..."
ACORN USER

ScanLight 256

The very popular hand-held scanner capable of scanning 256 grey-levels for photographic quality image capture. The best way to get pictures into your computer. Includes internal expansion card. Versions available for all Acorn computers - so please specify model of computer when ordering.
A300/400/5000: £189 + VAT (£222.07 inc)
A30X0/4000:
CC mini podule £199 + VAT (£233.82 inc)
HCCS Ultimate MicroPodule £229.00 + VAT (£269.07 inc)

SCANLIGHT 256 REVIEW:

"Really impressive.
A stable, well made product."
ARCHIVE

ScanLight Video



A combination of ScanLight 256 greyscale hand scanner, and real-time 256 greyscale video digitising, on a single card.
£220 + VAT (£258.50 inc)

SCANLIGHT VIDEO REVIEW:

"Excellent quality..."
ARCHIMEDES WORLD

ScanLight Professional

High quality flatbed A4 256 grey-level scanner and ScanLight image processing software. Requires SCSI interface card (available as optional extra).
£499 + £10 p&p + VAT (£598.07 inc)

PROFESSIONAL REVIEW:

"This really is a professional level tool."
ACORN USER

ScanLight Professional Colour



New high quality 24-bit full colour flatbed A4 scanner. Special bundle includes the stunning Spacetech Photodesk retouching program, worth £198. 4Mbyte min. 8Mbytes or more recommended. Requires SCSI interface card (available as optional extra).
£749 + £10 p&p + VAT (£891.82 inc)

LaserDirect HiRes

Direct drive, higher resolution laser printing for Acorn Risc computers. Quite simply the fastest laser printing solution available. The HiRes8 offers a maximum of 8 pages per minute. The HiRes4, 4 pages per minute. 2Mb RAM minimum, 4Mb RAM recommended.
HiRes8 £1099 + £10 p&p + VAT (£1303.07 inc)
HiRes4 £799 + £10 p&p + VAT (£950.57 inc)

Canon Colour Printers



360dpi printing (40% higher than HP printers), vivid colour and unlike some colour printers, absolutely no problem mixing black and colours together. Separately replaceable colour ink cartridges. Includes RISC OS 3 TurboDrivers and cable.
BJC-600 A4 printer £469 + £10 p&p + VAT (£562.82 inc). BJC-800 A3 printer £1499 + £10 p&p + VAT (£1773.07 inc)

BJC-600 REVIEW:

"A very impressive package, worthy of our Best Buy rating."
ARCHIMEDES WORLD

Canon Mono Printers

Fast, 360 dpi, inkjet printer. Includes TurboDriver software to provide the fastest inkjet printing of any printer in its class. Printer has built-in sheet feeder and power-supply. Includes printer cable.
BJ-200 A4 printer £229.00 + £10 p&p + VAT (£280.82 inc)
BJ-230 A3 printer £289.00 + £10 p&p + VAT (£351.32 inc)

BJ-200 REVIEW:

"All in all, this is a splendid piece of kit."
ARCHIMEDES WORLD

Pioneer fast multi-disc CD drives



Holds 6 CDs and includes automatic disc changer. PhotoCD compatible. Includes driver software for all Acorn compatible SCSI interface cards, compatible with AUN networks. Two versions available, the 604X is four times normal speed (600K sec) and the 602X is twice normal speed (300K sec). CDFS 2.2 required.
604X - £999 + £10 p&p + VAT (£1185.57 inc)
602X - £499 + £10 p&p + VAT (£598.07 inc)

EAGLE M2

The ultimate multimedia product. Full video capability - digitises still images and Replay movies, audio sampling and playback, midi capability and much more. 4Mbyte RAM, hard disc and ARM3 min recommended.
Including the Eidos real-time video compression software: *£329 + £6 p&p + VAT (£393.62 inc)*

EAGLE REVIEW:

"In short Eagle comes highly recommended."
ARCHIMEDES WORLD

Lark

16 BIT STEREO/AUDIO SYSTEM FOR ACORN RISC COMPUTERS

16-bit stereo CD quality audio sampler and playback card. Includes links to and from computer sound and external sound source such as CD, with mixer. Includes the acclaimed AudioWorks and AudioControl software. MIDI In, Out and Thru connection.
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E&OE. Prices and descriptions are subject to change without prior notice.

CC wizardry on the PC

THANKS to their experiences in programming for Acorn machines, Computer Concepts has branched out on another platform and written what can be described as *ArtWorks* for the PC.

Presently called *Camelot*, though likely to end up as *ArtWorks for Windows*, the vector graphics package will share the same advantages over programs such as *CorelDraw* as *ArtWorks* has had for many years.

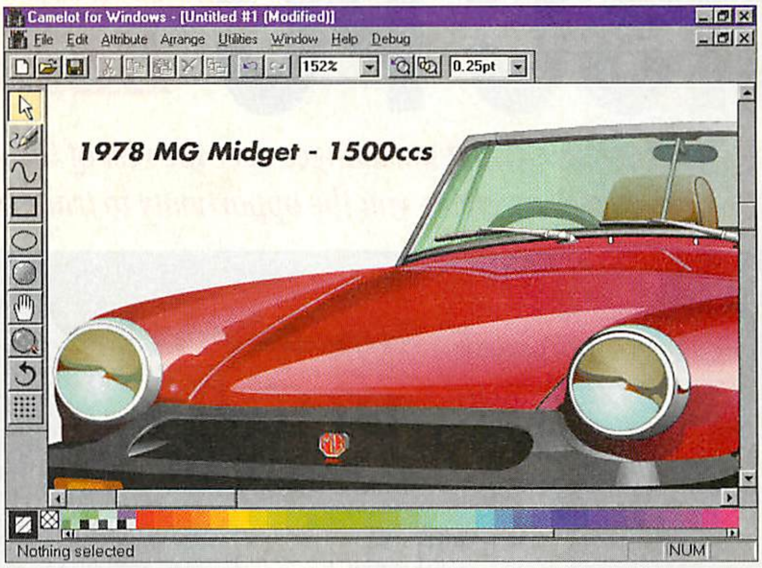
At the first public demonstration of *Camelot*, the alpha test version was redrawing 20 times faster than *CorelDraw* v.5.

This was obviously a focus of much attention and considerable amazement to the PC on-lookers, who also had their first glimpse of such Acorn standards as anti-aliased graphics.

The coders have achieved the astonishing running speeds by bypassing conventional Windows drawing routines and using their own called GDraw.

Ring any bells? It was developed straight from the *ArtWorks GDraw* module.

Among *Camelot's* innovative new features is transparency control over colours and graduated fills, something which will not appear in future versions of *ArtWorks* until Acorn develops the appropriate coding tools, such as a *true* C++ compiler with a comprehensive Risc OS class library.



Camelot: now Windows owners will find out what they've been missing...

Risc PC users, at little cost, should be able to enjoy the benefits of *Camelot* with the forthcoming PC coprocessor which will be shipping in the next few months.

A full version of *Camelot* will not be released until next year. Although CC has produced many PC products in the past, like the successful PC versions of its ScanLight packages, it will be extremely interesting to see how the PC world reacts to *Camelot* and perhaps to other Acorn-born concepts and programs as a result.

The effect upon the software scene on the Acorn platform can only be guessed at.

Re-touché

WITH reference to a letter published last month concerning a review of photo retouching packages, I have decided to clarify my reasons for not classifying all the new bitmap programs as photo retouchers.

Question: what is a photo retouching package?

Initial Answer: a photo retouching package is anything that can retouch photos.

By this definition, all the new 24-bit bitmap editors are photo retouchers and so is *Paint*, albeit a poorly equipped one.

Yet, if you have to draw lines – and most people would certainly draw at least one between *Paint* and *Photodesk* – where do you draw the line to separate photo retouchers from other bitmap editors?

Perhaps this is and ever will be one of the eternal questions about computer graphics.

Nevertheless, in an attempt to make some sense of the situation, I and the magazine decided to lay down some lines of our own to use when reviewing the packages. They were made with a view to the kind of market that Acorn and most third parties aspire to – the realm of high-end users and professionals.

This may not be appropriate policy for all types of Acorn products, like games for instance – there not being many professional game players around – but for graphics, especially in the area of photo retouching, it would make a mockery of *Acorn User* and the Acorn world if we didn't demand very high 'qualifying standards' as set by Mac and PC products.

It is for this reason that I stand by my view. Without an 8-bit mask, virtual memory, accurately anti-aliased painting tools and a cloning brush – to name but four absolute industry standard and vital features – no bitmap package will qualify as a true photo retouching program.

This is true, even if '*I am a photo retouching package*' is plastered all over the packaging.

First rate graphics

WALTER Briggs of Kingfisher Graphics has tied a deal with The Image Factory clipart publishers based in Australia (see the News pages for more information). The work is typical of Walter's mastery of the package *ArtWorks*.

Walter first sprang to prominence when he won the Computer Concepts *ArtWorks* competition with his stunning picture of a kingfisher.

Kingfisher Graphics, since the arrival of such painting programs as *Studio24*, has moved into commercial bitmap image production to complement the vector graphics side.

The work is of the highest standard – Walter's recent accomplishments using bitmap programs are among the finest images I have seen generated from painting packages alone.

His painting of G'Kar and Marilyn Monroe already adorns Pineapple's *Studio24* advert. You can certainly expect more soon.

Lost address

SOME time ago a very kind gentleman wrote to me from Australia.

Are you out there? You are the only person to have ever written to the Graphics Page from Australia, but due to a house move your address hasn't been seen since.

Apart from contacting Cilla Black, I have finally lost hope of finding your name and address, so I would greatly appreciate it if you could recontact me.

You can contact the Graphics Page by writing to Jack Kreindler, at The Graphics Page, *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP.

In addition, Pics of the month, suggestions for software improvements and general comments can be sent to jack@acornusr.demon.co.uk.

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The Risc PC offers significant advantages over the rest of the Acorn range. BEEBUG are making some exciting offers as well as giving you the opportunity to trade in your existing Acorn computer for a Risc PC.



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Cyber café society in Brighton

PAVILION Internet plc is a new Brighton-based Internet provider. The service is launched on 5 September and offers users in much of central and coastal Sussex local call access to all Internet services, including World Wide Web, Internet Relay Chat (IRC), Usenet, e-mail and Telnet.

Managing Director, Andy Holyer, told me that there will be particular emphasis on local events and services, and even an Art Gallery for local artists to show their work.

An advertising area called The Lanes will enable local businesses to promote their services at low cost.

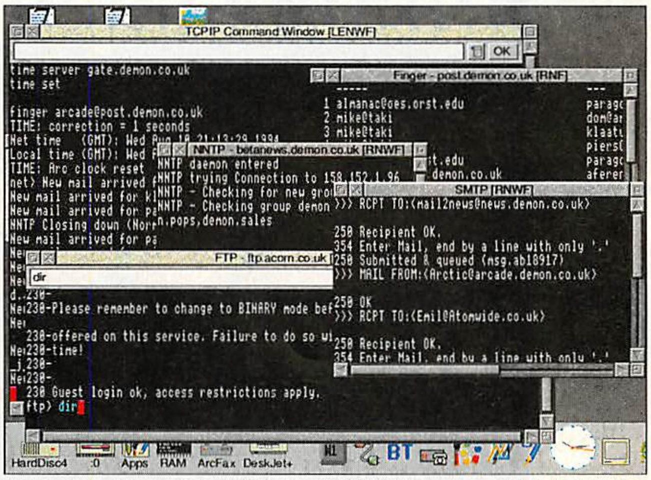
Pavilion Internet is also participating in negotiations to open in Brighton what may be the first Electronic Cyber Café in the UK, where you'll be able to drop in for coffee and coin-slot access to the Internet.

At launch, connection will be via BT lines to 14,400bps USR Sportster modems at Pavilion's Brighton office, which has a 64Kbps link to Pipex. Additional local cable lines will follow from Nynex, who offer phone line packages that can include free calls to other Nynex subscribers in Sussex between 7pm and 7am and at weekends.

Pavilion hopes to be able to use the Pipex modem farms as well, giving local call access from London, Bristol, Birmingham, Manchester and Edinburgh. Andy also told me that technical support would concentrate on PC and Mac users, so it's up to us Acorn users to make our presence felt right from the start.

Pavilion Internet access costs £17.75 inc. VAT a month (or £14.75 inc. VAT by direct debit) with no line or time charges.

For more information call (0273) 607072/607073 (voice) or e-mail info@pavilion.co.uk.



Windows on the world – *KA9Q* alias *TCPIP2.00f* – now available in Brighton

FidoNet meets Internet

ALL the hype about the Internet being the new 'information superhighway' – and I have to admit to having used that term myself on this page – seems to completely ignore the fact that for many years, hobbyist bulletin boards around the world have been linked together by a packet-switching network technology that features electronic mail, public discussion groups and file distribution.

Of course, I'm talking about FidoNet and the many other similar bulletin board Nets that use the same FTN (Fidonet Technical Network) standards.

Users of FidoNet have been understandably dismayed by the media's concentration on the 'trendier' Internet.

Recent articles in *Acorn User* perhaps created the impression that Internet is the be-all and end-all of international networks.

FidoNet was created and conceived in 1984 by Tom Jennings in St Louis, USA, when he and a friend wanted to pass messages between their Tandy computers by telephone.

It has grown to huge proportions since then, with many thousands of FidoNet nodes in the US, Europe, Australia and Far East.

A FidoNet-Internet linking experiment is in progress to help Acorn-owning FidoNet BBS users who also want to become Internet users.

This will create a two-way link between a FidoNet Echomail Internet-access discussion area and a corresponding Usenet newsgroup.

BBS users can get help from the people who best know the answers to their queries – seasoned users of *KA9Q* who are already on Internet.

The Fido-linked newsgroup is called demon.ip.support.archimedes and its Echomail counterpart can be found on many bulletin boards including Arcade, Arctic, Cryton, Digital Databank, Pangill, Plasma Sphere and Starnet. Users with accounts on these BBSs are encouraged to explore it.

Bright spark

SPARK Nite is one of several new Home Counties BBSs that will form what is called 'The Spark Network' by creator Andrew Lobel. Each BBS will be linked to the others by echomail, but independently run by its Sysop.

Andrew and his schoolfriend Sysops have grand plans for the network, including a new multi-user game called Illusion Master and it will be interesting to see how it develops.

Charles Baylis is the Sysop of Spark Nite, located in Wokingham, Berkshire, which runs ARCbbs on an A5000 with an 80Mb hard disc and a V32bis modem.

Charlie (he doesn't mind being called that) runs the system on a voice line at the moment, so the BBS opening hours are restricted to late night and early morning.

Spark Nite has many of the Acorn interest file and message areas, and Charlie welcomes more callers and uploads. Call Spark Nite on (0734) 772401 from 10pm until 7am.

Oregan go near

Mark Perry, Project Manager of Oregan Developments – the publishers of such titles as *Magnetoids*, *Digital Symphony* and *Morpheus* – tells me that they have joined the trend and are now contactable for sales and support via Internet as – wait for it – sales@oregan.demon.co.uk and support@oregan.demon.co.uk. They're still on the phone too: 021-353 6044.

Fast at last?

Now that the high-speed modem data transfer standard V.34 has finally been fixed and agreed by the ITU standards committee, we can expect to see some new products and upgrades to so-called 'V.34 ready' modems. Or will we?

It seems that some 28800 bps products based on the Rockwell V.Fast Class chipset will not actually be upgradable to the 'real' V.34 standard.

Motorola and Sonix have already announced 'real' V.34 products at rather staggering prices – £795 for the Sonix Volante Fast V.34.

USR promises its Courier V.FC to V.34 upgrade is possible and will be fast – and free.

Armbbs born

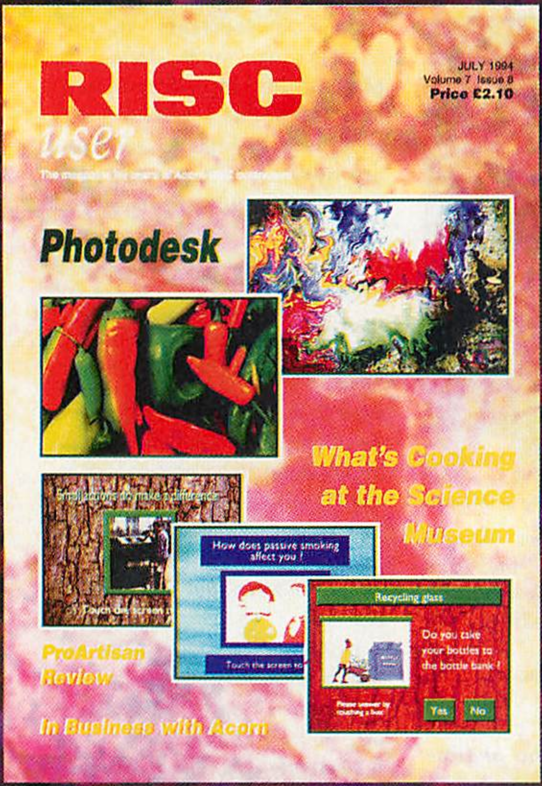
Robin Abecasis' former *RiscBBS* system in Aberdeen called The Wee BBS has been reborn as one of the testbeds for *ArmBBS*, a new BBS software package being developed by Keith Hall.

Keith has been quietly working away on *ArmBBS* between enhancements to Arc-Binkley.

When *ArmBBS* is ready for general use I'll be reviewing it here. Until then you can try calling Robin's new system called Renegade BBS, sporting a USR V.FC 28,800bps modem, on (0224) 639858.

You can contact the Comms page by writing to: David Dade, Acorn User, Europress Publications Ltd.,Europa House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to: DaviD@arcade.demon.co.uk, or by MODEM on Arcade BBS, User #2 - 081-654 2212 or 081-655 4412.

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- **Our reviews and practical articles are written by authors with years of expertise in the field, not by busy journalists.**
- **RISC User builds into a comprehensive reference source on all aspects of using Acorn computers. Most back issues are still available, together with indexing software allowing you to locate any article quickly.**

Recent articles and series in RISC User have included:

Hands-on Multimedia	*practical advice on using multimedia tools*
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Desktop Publishing for Children	*a look at this popular subject from an educational viewpoint*
Wimp Topics	*a series of programming articles aimed at the serious programmer*
What's Cooking	*behind the scenes at companies such as Computer Concepts, Minerva and Eidos*
Desktop C	*a tutorial series on Wimp programming in C*

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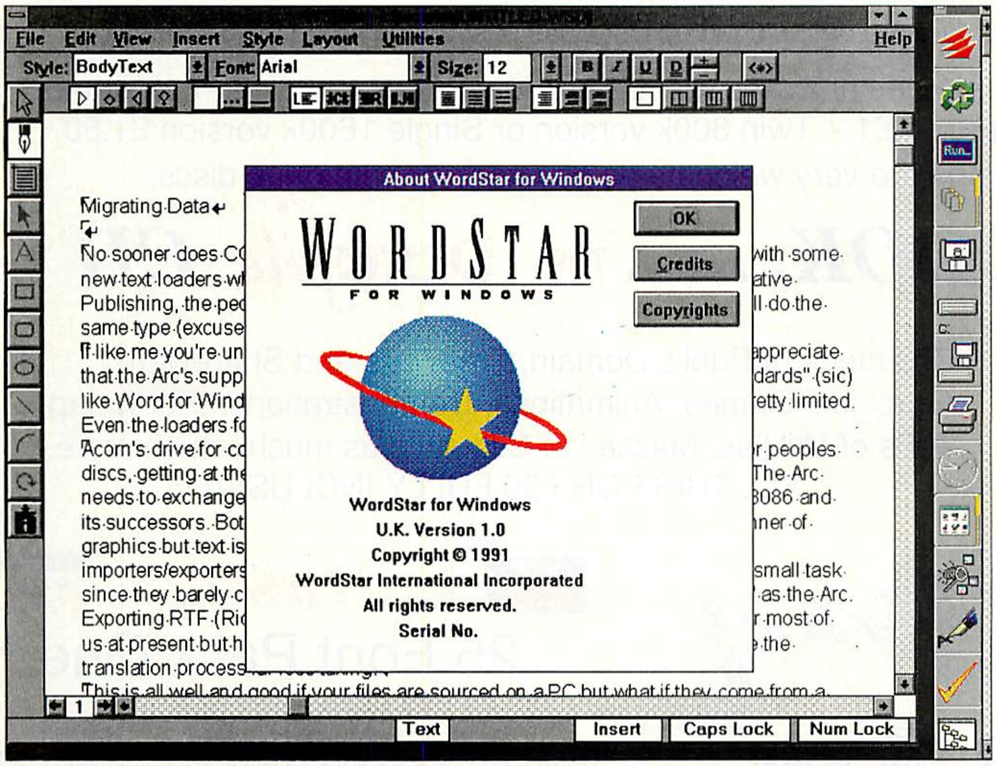
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Complete and return the coupon for more information on this exciting and ground-breaking magazine.

Migrating data



Reading foreign file formats will be a key issue if Acorn is to make any inroads into the DTP market.

NO SOONER does CC say it's looking at improving *Impression's* import facilities with some new text loaders, when another company springs up with a similar idea.

Alternative Publishing, the group who produced *ImageFS*, is looking at a package that'll do the same type (excuse the pun) of thing with text.

If like me you're unfortunate enough to work with PCs most of the time, you'll appreciate that the Arc's support for importing and exporting documents to 'industry standards' like *Word for Windows*, *Word Perfect*, *WordStar* and *Word anything else* is pretty limited. Even the loaders for CC's *Impression*, though good, are far from perfect.

Acorn's drive for compatibility has created a Risc PC that can read lots of other people's discs. Getting at the information on those discs is however, a different matter.

The Arc needs to exchange data with the unenlightened who still adhere to the call of the 8086 and its successors.

Both *ImageFS* and *Translator* give Arc users access to all manner of graphics, but text is a very different matter. Having to navigate the host of importers/exporters that accompany each PC word processing package is no small task, since they barely co-operate with each other, let alone something as 'obscure' as the Arc.

Exporting RTF (Rich Text Format) files from the PC is really the only option for most of us at present, but hopefully these rumours will turn into products that will make the translation process far less taxing.

This is all well and good if your files are sourced on a PC, but what if they come from a Mac? CC's *MacFS* lets you get at the files, but can you get anything useful out of them?

The answer is yes as long as you can get the Mac application to export RTF. It's worth pointing out at this point that even though *Quark Xpress* has been available for both the PC and the Mac, it's only quite recently that you've been able to swap files between the two versions of the same package.

And translating text files from the Mac to the PC isn't exactly straightforward, so the Arcs current lack of support isn't that big a failing since on the whole, cross package import/export isn't all that well supported on other hardware platforms either.

A prime example is RTF. It's an 'industry standard' that is apparently well catered for on both the PC or the Mac.

However, using it to exchange files between different packages shows that software manufacturers vary greatly in how well they implement RTF.

Some have better importers and exporters than others. One PC package doesn't understand its own RTF output when it's re-imported, so enough said.

Moving files from one package and platform to another is no easy task, hence the inertia inherent in users who have five years worth of *WordPerfect* files.

They are hardly likely to change to a different word processor, let alone another platform.

Tackling this leap, so that people can move all their data if and when they move platform, is a hurdle that has to be considered if Acorn are to woo people away from the safety of their current environment.

Chromalin at TJ

TJ Reproductions has now got a chromalin machine hooked up to an Arc for those who are looking for really good colour proofs without the hassle involved in exporting a postscript file for a PC/Mac based bureau. TJ can be contacted on 071-372 4430.

Publisher Plus

CC has decided to call the *Publisher* OPI supplement *Publisher Plus* to make life easier for us all. Upgrade prices have also been set and it'll cost you £130 + VAT to upgrade from *Publisher*, £299 + VAT to buy *Publisher* and *Publisher Plus* together, and £200 + VAT to upgrade from *Style*. See it at the show.

Anyone concerned about the cost of this upgrade should consider the plight of Power Mac users, who have to shell out £395 + VAT to upgrade *Quark* to its recompiled-for-the-PowerPC version. If they'd bought *Quark* when it was first released they could have paid up to £2500 in upgrades by now.

Compared with this, even upgrading from the original *Impression Junior* looks cheap.

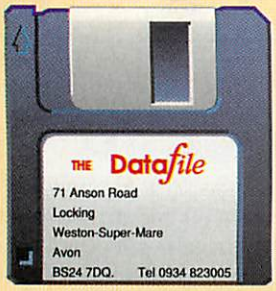
Inkjets vs lasers

I know I mentioned a new inkjet last month, but rumour has it that HP is to release a pair of 'competitively priced' colour inkjets before Christmas to replace the current Deskjet 500 and 560 models.

It's also worth noting that several manufacturers are promising new cheap (sub £500) high resolution lasers at about the same time.

Admittedly the lasers are only black and white but they do produce noticeably better output, so the future for home users searching for a new printer looks very promising since competition can only bring prices down further.

You can contact the DTP page by writing to: Steve Powell, Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to SteveP@acornusr.demon.co.uk



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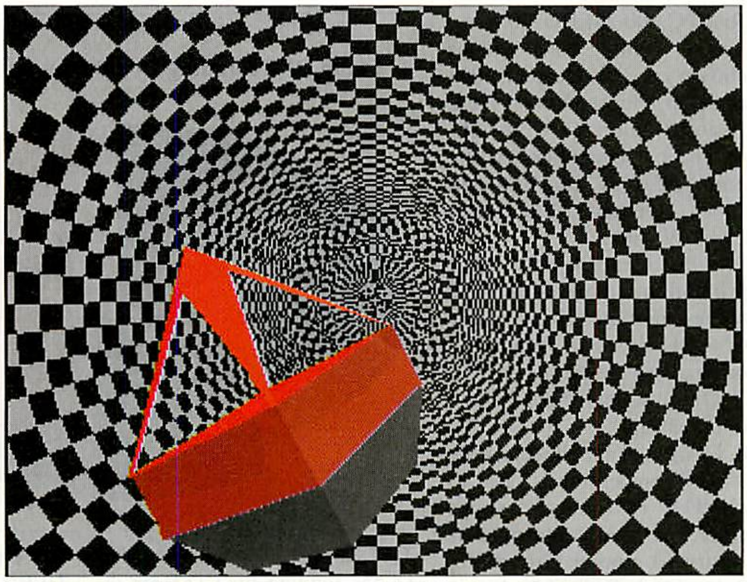
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Black zone from Germany

STRAIGHT from the demo coding centre of Europe comes a new demo by German coders Squo-Quo.

The Black Zone is the team's latest demo code, but unless you're a fan of the majority of existing Arc demos you'll find the two discs worth of the *'Zone* a bit on the boring side.

There's plenty of f/x wrapped up in quite a lot of parts, as you can see from the screen-shot.



Enter *The Black Zone* with Squo-Quo

On the down side, the presentation is poor and there's no flow or linking at all in the production.

Some of the vector graphics routines are quite interesting but are let down by the slow 25 frame per second screen update and the very poor accuracy used in the vector calculations, making everything jiggle about.

Given the time spent on writing so many different routines, it's a shame a little bit more effort wasn't spent on getting them right.

Having said that, this is a big improvement on the group's last demo, so I'm looking forward to their next code.

The Black Zone is a 2Mb-only demo which is on discs 130 and 131 from the Datafile.

Clip art

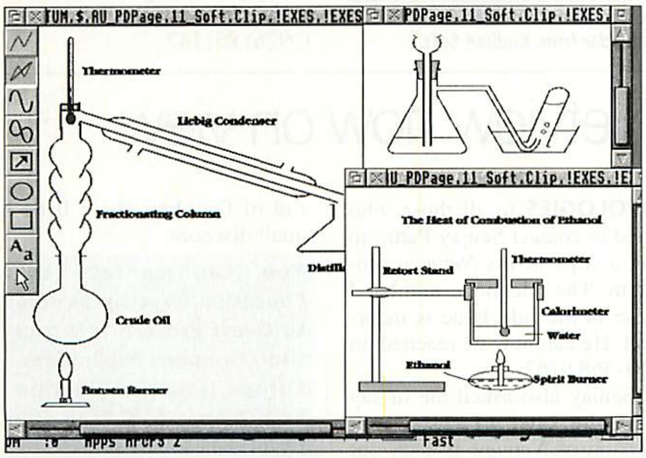
ALTHOUGH clip art has always been popular with schools, I have never before seen such a complete pack of *Draw* file diagrams tailored specifically for education and available as PD.

A collection of six directories allows access to brimming filer windows of scientific diagrams and artwork.

The first and most useful directory features a massive range of laboratory equipment *Draw* files which have been designed specifically to fit together, enabling complete lab experiment diagrams to be constructed.

There is also a host of detailed pictures of everything from geological processes to industrial science diagrams and biological plant structures.

All the *Draw* files are well drawn, easy to read and understand and ideal for DTP use. They can be found on disc CA052 from the Datafile.



Clip art for schools from Gillian Matthews

Beebware

DON'T be confused by the use of the word Beeb, with its 8-bit associations, in the name of this relatively unknown PD library – Beebware is a 100% 32-bit PD supplier run by free software enthusiast Richard Andrew Chiswell.

Although Beebware is a fairly small library with only around 100 discs of software, you'll find all the usual services and offers associated with the bigger PD distributers.

Pick and mix ordering, double and high density discs, a full catalogue subscription service and sizeable discounts for large orders all add up to a good quality service.

The catalogue is detailed and informative and is presented in a competent search and display prgram.

Beebware doesn't offer the kind of range found at the Datafile or APDL, but is certainly worth supporting and working with to expand the catalogue.

Contact Beebware PD, 83 Forest Rd, Huncote, Leicester LE9 3BH.

Datafile CD-Rom

CDs have taken the PC public domain software scene by storm, but until now the ability to buy hundreds of megabytes of shareware in one go has not reached the Arc, where CD-Roms have been slow to catch on.

All this has changed, however, with the release of the Datafile's first public domain CD-Rom, compiled in conjunction with DeskTop Laminations, hopefully the first of several.

The PD-CD costs £30 inc VAT, or £25 to registered Datafile users. Watch out for an in-depth review in a future issue.

After introducing the new catalogue and disc ordering system, the Datafile is now moving one step closer to automation with a new bit of software from the Datafile's technical genius Dirk-Willem van Gulik.

All orders created by the library's new ordering system and sent in on disc will be automatically processed and copied by Dirk's program.

Dave and Sue – who run the library – have therefore requested customers to send orders in by disc wherever possible.

Snow Leopard

Flight simulation fans can look forward to a new flight sim from Newton Computing.

***Operation Snow Leopard* will be available in the next few months in the form of a PD demo and a full shareware game for around £8-£10.**

Watch for a review on this page soon.

Fractal

A new version of the ever popular and completely comprehensive fractal drawing package is now available.

***Fractal* version 1.07 which includes support for Colour Card Gold graphics cards is on disc ST003 from the Datafile.**

You can contact the PD Page by writing to: Paul Wheatley, Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: paul@acornusr.demon .co.uk

Design and win

Christmas is coming,
A card you must design,
Send it back to Acorn;
Make sure it's here in time!

ACORN Computers is inviting all budding artists and would-be designers, young and old, to enter a competition to design its 1994 Christmas card.

The winning entry will be professionally printed and used worldwide by member companies of the Acorn Computer Group this coming Christmas, and the winner will receive the hottest product in the Acorn line-up: a Risc PC.

The theme for the competition is: A World of Opportunities. All entries must be original work and should be produced using an Acorn computer. Designs should be submitted both in *Draw* file format and as an A4 hard copy.

Group and individual designs are welcome, and there is no age limit. The winner will be presented with a Risc PC at Acorn World '94, which takes place at Wembley on 28th-30th October 1994. Competition rules are as follows:

1. All entries must be received by second post on 10th October 1994.
2. The prize will be an Acorn Risc PC 600 2M HD210.
3. The winning entry will be chosen on 24th October 1994 at Acorn House, Vision Park, Histon, Cambridge, CB4 4AE.
4. The prize winner will be announced at Acorn World 1994 (October 28th-30th 1994, Wembley).
5. Photographs and other promotional material may be requested of the prizewinner.
6. All designs must be original.
7. Only one entry per person or per group.
8. Designs cannot be returned.
9. The competition is open to all UK residents, except employees and contractors of Acorn Computer Group plc, Advanced Risc Machines Limited and their subsidiaries, agents, dealers or anyone connected with the competition.
10. Entries must be submitted in *Draw* file format and A4 hard copy.
11. Acorn Computer Group plc and its subsidiaries shall have the right to reproduce all designs for future use and applicants shall, if requested, sign an appropriate form of authorisation.
12. Send entries to: Acorn Christmas Card Competition, Corporate Affairs Department, Acorn House, Vision Park,

CD-Net gets a boost

I ENTHUSED about *CD-Net* from PEP Associates way back in February and again in the Network Special in July.

Now Cumana has joined forces with PEP Associates and has produced an even faster and more reliable program.

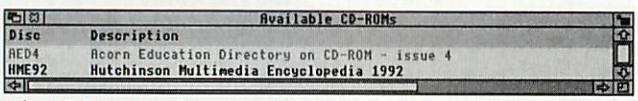
CD-Net enables standard single-user CD-Roms to be read across a network by several users.

Licensing is provided via software 'keys' which are installed within *CD Net* in much the same way as printer driver description files are installed in the Printer Manager.

Keys are being produced regularly and consequently the library of networkable CD-Roms is growing rapidly.

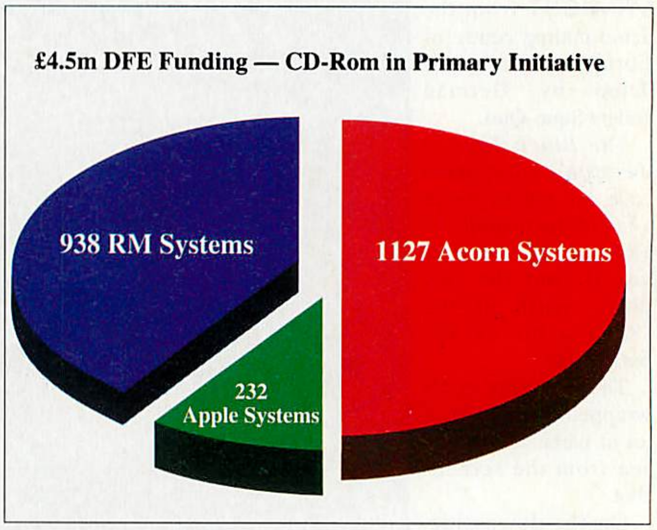
Yet another plea to CD-Rom producers – get a licence agreement sorted out with Cumana so your CDs can be exported around the network.

Cumana can be contacted on telephone (0483) 503121, and PEP Associates on (0223) 212251.



Using CD-Roms over the network is now even easier and faster

Ahead with primary CD



THE largest proportion of the £4.5M funding for CD-Rom in primary schools was spent on Acorn equipment.

Almost 50 percent of the systems purchased with the DFE's funding were Acorn's A5000 multimedia systems featuring Cumana's 300 series CD-Rom drive.

Kudlian Soft calendar

CALENDAR is a neat little program from Kudlian Soft and in a sense is not dissimilar to Clares' *Card Shop* reviewed back in March. Here the object is to design a calendar which can be pinned on a wall.



Design your own calendar with *Calendar* from Kudlian Soft

Apart from producing the calendar for its own sake, this is an excellent vehicle for displaying childrens' computer artwork. The user chooses the designs and layout of the calendar from a simple option box which includes one, two or 12 months per page, font syle, border and picture.

The program is supplied with a range of borders and some pictures in *Draw* file format. The primary site licence is £25 and the secondary is £40.

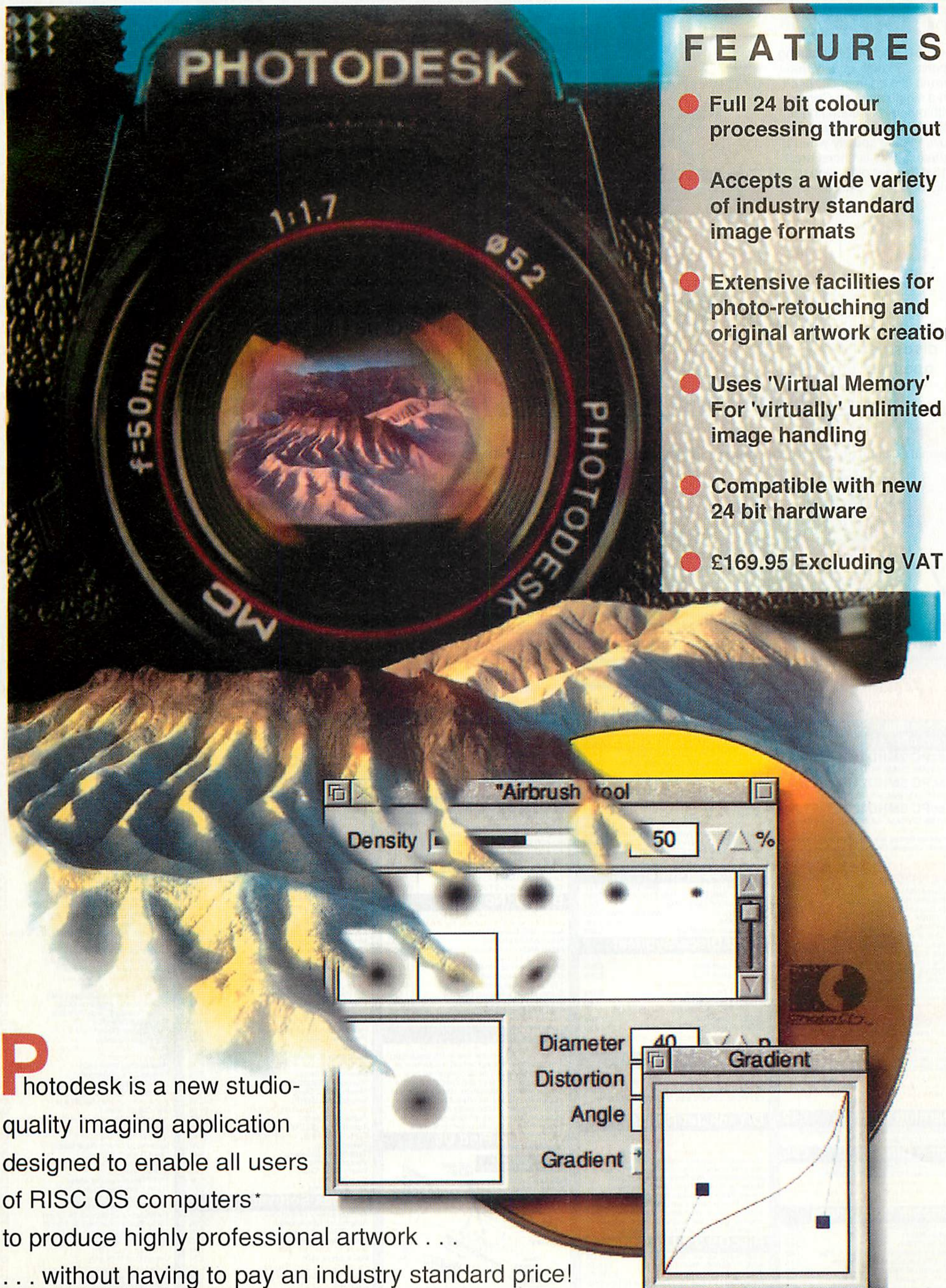
Contact Kudlian Soft on (0926) 851147.

Netview now on view

APOLOGIES to all those who tried to contact Sanjay Pattni to get a copy of his *Netview* program. The telephone number I gave in the July issue is incorrect. He can now be reached on 081-568 9167.

Sanjay also asked me to say that the cost of the latest version of *Netview* is £45, but if you contact him before the end of October, there'll be a small discount.

You can contact the Education Page by writing to Geoff Preston at Acorn User, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP by or e-mail to GPreston@arcade.demon.co.uk.



Photodesk is a new studio-quality imaging application designed to enable all users of RISC OS computers* to produce highly professional artwork . . .
. . . without having to pay an industry standard price!

* Hard disc systems only

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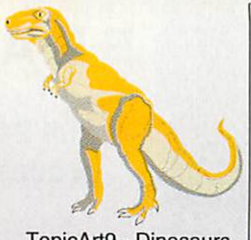
Advert produced with Photodesk on an A5000

Contact Spacetech for release information: 21 West wools, Portland, Dorset DT5 2EA Tel 0305 822753 Fax 0305 860483

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Single disc clipart containing approx. 50 high quality draw format clip art images, each on a single subject. Comes with mono reference sheet. 12 subjects are available now. Please specify when ordering. Site licences are £16+VAT per disc, please ring for further details.



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9 - Dinosaurs
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£8 + VAT per disc

TopicArt catalogue now available. £1.50 Inc VAT & p+p (cheques only)

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TopicArt12 - AnimalsGB



TopicArt4 Entertainment

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Special editions of TopicArt consisting of a minimum of 4 discs full of clipart





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The above include all cables, screws and instructions.
All the above drives are Connor as used in the RiscPC

A300/A400 Series Internal (IDE)

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420Mb 14ms Cache (~1.5Mb/s)	£339
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IDE 105Mb Internal for A5000/RiscPC	£259
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(Above includes one cartridge, exclude SCSI card)	
105Mb Syquest Cartridges	£55

CD-ROM



Our drives are PhotoCD compatible (multi-session) and include a driver for CDFS =>2.2

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Matshita Tray Loading SCSI CD-ROM drive, (300kb/s, 295ms access time) c/w cables.

without SCSI card	£215
with Morley SCSI card	£335

RiscPC Internal

Toshiba XM-3401B caddy SCSI CD-ROM drive (330kb/s, Fast 200ms access time) c/w caddy and cable.

without SCSI card	£239
with Morley SCSI card	£359

The above prices are for a Morley uncached SCSI card.

QuickTile v1.02 £25+VAT



Up until now it has only been possible to print posters from Draw & Sprite files. Now with QuickTile you can create posters from ANY RISCOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. RiscPC compatible.

Requires RISCOS 3.10 or later. Return Disc with SAE for upgrade. Upgrade from Tiler for £15+VAT.

DIY Ink Jet Refills

Single Refills (req an orig cartr.)	£7
Twin Refills (Black only)	£12
125ml / 400ml Cleaning Kit	£4 / £10

Available in Black, Cyan, Magenta, Yellow, Red, Green, Blue, Brown

Please specify colour(s) required when ordering.These do-it-yourself refills can be used with any printer where the head and ink reservoir are combined, ie, DJ-500, BJ10/200. Please do not send empty cartridges. Please note that colour quality may not be 100% from a black cartridge refilled with another colour. We cannot guarantee against dried up empty cartridges and/or blocked nozzles.

QuickSound £10

Load, play, convert & resave Armadeus, Tracker and raw data sound samples. Apply special effects including Reverse, Echo, Max Vol, alter replay rate and resample frequency. Convert samples into modules for use with the RISCOS sound system. Create stand alone Utility mod's.

QuickShow £25

Slide show presentation and video titling package. Create sequences of frames containing text of any colour with drop shadows, outline shadows and rubout boxes using the RISCOS fonts. Sprites can also be included in frames, positioned and resized as necessary. Screens can be linked together with the sequencer with fades in and out.

Hardware, Software & Books (All prices exclude VAT)

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RiscPC 5MHD210	£1299
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RiscPC 9MHD420	£1599
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All RiscPC's incl. 1yr on-site maintenance
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RiscPC Upgrades

4Mb Simm RAM	£125
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32Mb Simm RAM	£950
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2Mb VRAM	£149
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Connor 210Mb Hard Drive	£159
Connor 420Mb Hard Drive	£259
486 PC Upgrade (available ~Oct 94)	£99
MS-DOS 6.2 & Windows 3.11	£99
2nd Slice Case Upgrade	£99
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A3010 Action Pack 2Mb RAM	£339
A3010 Learning Curve with AKF30	£599
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A3020 2MHD60/AKF52 MultiScan Sys	£849
A4000 2MHD105/AKF52 MultiScan Sys	£879

Add £55 for AKF50 0.28dp Monitor
(Above excludes A3010 computers)
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Learning Curve £42
Includes Acorn Advance & PC Emulator & demos of Applications & Games

Home Office £85
Includes EasiWriter2, DataPower, PipeDream4, PC Emulator & demos
The above software packs are available with any of the above computers except. They are not available separately.

Portable Computers

Acorn Pocket Book	£169
Psion 3 (256k)	£175
Psion 3a (512k)	£249
A-Link for Pocket Book or Psion 3/3a	£42
P Book/Psion 3/3a Mains Adaptor	£17
A4 Portable 4MHD60	£1599
Free PC Emulator with every A4	

Monitors

Acorn AKF52 14" 0.39dp MultiScan	£250
Acorn AKF50 14" 0.28dp MultiScan	£310
Acorn AKF60 14" 0.28dp MultiScan	£325
Acorn AKF85 17" 0.28dp MultiScan	£649
Microvitec Cub Scan 1440 (3yr warr)	£310

Hardware Upgrades

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Hi-Vision24 Digitiser A5000	Int £149/Ext £165
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A5000 Up to	4Mb £89 / 8Mb £259
A400 RAM	£45 per Mb
A300-A400 8Mb RAM	£249

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20Mb + User Port	£209
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SCSI Archimedes Internal	
127Mb 17ms Cache	£319
210Mb 15ms Cache	£40
A3000 Internal IDE Hardcards	
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80Mb + User Port	£229

For other hard discs & Syquests refer to section at top of page

CD-ROM Drives

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Includes extl. case, PSU, caddy & Driver	
Toshiba External caddy loading CD-ROM 330kb/s with 200ms access time.	£329

The above drives exclude SCSI Card

DIY Ink Jet Refills

Single Refills (req an orig cartr.)	£7
Twin Refills (req an orig cartr.)	£12
125ml / 400ml Cleaning Kit	£4 / £10

These do-it-yourself refills can be used with any printer where the head and ink reservoir are combined. Available in Black, Cyan, Magenta, Yellow, Red, Green, Blue and Brown. Note that colour quality may not be 100% from a black cartridge refilled with another colour. We cannot guarantee against dried up cartridges and/or blocked nozzles. Please do not send empty cartridges.

RiscOS 3.1 Upgrades

A300/A440 Series (inc carrier board)	£97.88
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Please add £4 (Inc VAT) carriage to RiscOS3

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Canon BJ-200	£220
Canon BJ-230	£280
Canon BJC-600	£435
Canon BJC-800 Turbo	£1150
HP LaserJet 4L (300dpi)	£500

Add £35 to above printers for TurboDriver

Printer Consumables

BJ-10 Ink Cartridge (BC-01)	£18/£19
BJ-200 Ink Cartridge (BC-02)	£18/£19
BJ-300 Ink Cartridge (BJI-642)	£17
BJ-600 Black Cartr. (BJI-201)	£8
BJ-600 Colour Cartr. (BJI-201)	£9
BJ-800 Black Cartr. (BJI-643)	£18
BJ-800 Colour Cartr. (BJI-643)	£21
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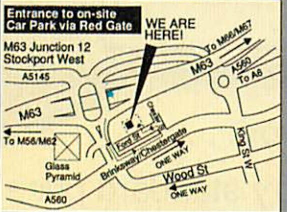
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Game Maker's Manual (Sigma)	£14.95
Mastering 1st Word+ (Dabs)	£13.95
RiscOS 3 First Steps (Dabs)	£14.95

Add £2 Carr to above (£4 for Acorn books)

Terms

EC residents add 17.5% VAT to all prices except books. Carriage free in UK (excluding remote areas) (except books), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Official orders welcome from educational establishents, chq with order under £30.

Where to Find Us



Application Software

Advance (Acorn)	£95
Advantage (Longman)	£47
Almanac3 (Stallion)	£64
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-Includes Man Utd, J Khan Squash,	
-Wld Class Leaderbrd & Boxing Mngr	
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Chopper Force (4D)	£24
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- Incl Twin World, Iron Lord & Tower of Babel	
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Granny's Garden (4Mation)	£23
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Haunted House (4D) 2Mb	£18
Heimdall (Krisalis) 2Mb	£13
Hero Quest (Krisalis)	£13
James Pond (Krisalis)	£18
James Pond 2 RoboCod (G/W)	£20
Krisalis Collection	£21
-Includes, Mad Prof, Pipe'm, Terr'x & Revel'n	
K.V. (High Risc)	£12
Lemmings (Krisalis)	£18
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Lotus Turbo Chall 2 (Krisalis)	£18
Magic Pockets (Renegade)	£20
Magnetoids (Oregan)	£22
Noddy's Playtime (J/Bean) 2Mb	£20
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Omar Sharif's Bridge (Krisalis)	£21
Pandora's Box (4D)	£18
Play it again Sam 1 / 2 / 3	£19 ea.
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THE Acorn User cover disc

Extras

The *Extras* archive contains the C tutorial files, a couple of education resource files and a module to reduce module area fragmentation.

C Tutorial: There are three programs in the *CTutorial* directory. They are linked to the 'C for Yourself' article in the magazine. Both source code and compiled and linked programs can be found in the directory; the programs are in the *CTutorial* directory itself, and the source done is in the *C* subdirectory. (Note that the *HofLords* program produces no output and therefore gives no indication that it *has* run.)



Education files: These files both tie in with articles in the magazine. The file *Multimedia* contains a list of useful addresses to tie in with the article on Multimedia by John Woolard.

The file *NavIdeas* by Colin Rouse has a set of ideas for use with the program *Navigator* by Topologika.

Module Area Blues: This file is a resource to prevent fragmentation of the Module area on pre-Risc PC machines. It should not be used on the Risc PC where the system sprites are kept in a separate workspace.

The file in the directory is a *Boot* application which can be placed in the root directory of your hard disc (or boot floppy). However, if you already have a boot application or file, you will need to copy parts of the files inside the *Boot* application as follows:

- *SJSprites* module: this should be copied to the *Modules* directory inside your *!System* folder.
- *DeskStart* text file: The last line of this should be copied to the start of your desktop boot file – the file that is run after the desktop is started, see the Questions and Answers pages for more information – and altered to point to the module in your *!System* directory. For instance:

```
RMEnsure UtilityModule
3.50 RMEnsure SJSprites
1.00 RMLoad <Boot$Dir>.^.
!System.Modules.SJSprites
```

See also the article on 'Module area blues' in the magazine.

Adventure Games

By Graham Nelson

This is the second part of the *Inform* compiler, carried over from last month. This month's archive contains header files for the compiler, and a complete game as an example.

The game is *Advent*, as supplied in compiled form on the August disc, so you should now be able to relate how a game is written to how it appears when played.



To use *Inform*, you need the *Inform* compiler and manual from last month, and the header files and tutorial from this month.

This is not a conspiracy to make you buy both magazines, by the way, but a result of having 900K of programs for the September disc. The files should all be copied into a single directory.

There was a bug in the *Advent* game supplied on the August disc which caused the program to crash at one point in both mazes. The author of the program is investigating this problem; in the meantime, if you decide to explore the mazes save your position regularly.

Some people found that when they ran the *Zip* interpreter, part of the screen was cut off. The solution to this is to run the file *Small* which is inside the *Zip* application.

The application must be unarchived by dragging it to another directory first, then opened by Shift-double-clicking on it.

There will be an Obey file called *Small* inside the application which, when run, will cause the program to use smaller templates.

Disc Problems?

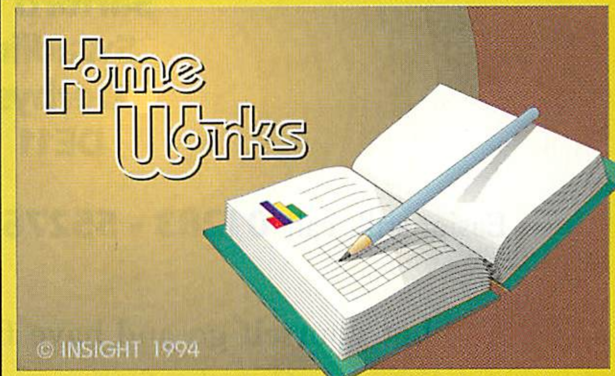
Our cover discs are thoroughly tested at every stage of production, but one or two faulty discs may slip through. If you suspect that your drive is faulty, do the following to check it:

1. Put the disc in your drive
2. Click Menu (the middle mouse button) over your floppy disc drive icon, on the left of the icon bar.
3. Click on the Verify option, and a window will pop up showing the verification process.

If verification finishes with no errors – the window says 'Disc Verified' – then your disc is not physically faulty and you should contact the editorial office at the address given on the contents page. However, if an error is reported, your disc is faulty and it will be replaced free of charge. Send it with your name and address to: PC Wise Ltd, Dowlais Top Business Park, Dowlais, Merthr Tydfil, Mid Glamorgan CF48 2YY

Most of the programs on the *Acorn User* cover disc are compatible with both Risc OS 2 and Risc OS 3. However, the discs are only tested on the new system, and we cannot guarantee that everything will work on Risc OS 2.

All cover discs are checked for viruses with *Killer* version 1.71 from Pineapple software. It is important that, if you have *Killer* and the *VProtect* module, you keep your copy as up to date as possible. Not only will this enable you to cope with new viruses as soon as they appear, but it will prevent older versions from 'finding' viruses which do not exist by accident. *VProtect* version 1.42, for instance, claimed to have found a virus on the September disc which did not actually exist.



Homeworks coupon 1

This is the first coupon in a set of five which together entitle you to a 40% discount off the price of a registered version of *HomeWorks*, the *Acorn User* integrated application. Normally a registered version would cost £50, so with all five tokens it will cost you just £30.

To claim your registered copy of *HomeWorks*, send all five tokens, plus a cheque for £30 made out to Insight, to Insight, 23 College Place, St Albans, Hertfordshire, AL3 4PU.

Frustrated Fonts?

Lets face it - fonts are relatively inexpensive, readily available, and with a hard disc drive, there's plenty of room to store them. But how are you coping with managing them?

!Fonts !Fonts2 !MoreFonts !LoadsMore

Sound familiar?

...You Need EasyFont

The essential software solution to this inevitable problem is EasyFont from those clever guys at Fabis Computing.

This program is *the* font management system. Once set up, all your fonts are readily available to your applications. Simply browse through the list and switch on the fonts you need. EasyFont is easy to install, easy to use, and easy on the wallet!

Just send a cheque for £30 (includes VAT and P&P) to:

Fabis Computing
Sarford House
Swadlincote
Derbyshire
DE11 9SL

Easier still, call **01283 - 552761** with your credit card details.

Let yourself go and have freedom with your fonts.
Get *the* font management system.

easy Font 2

FABIS COMPUTING
essential software solutions

HomeWorks

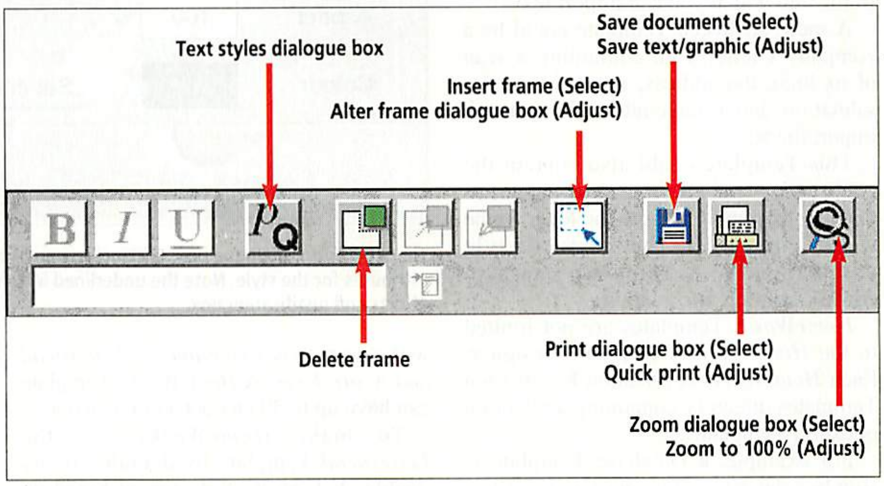
NOTE: HomeWorks will only work on systems fitted with Risc OS 3.10 or later.

H*omeWorks* is an integrated suite of applications including a document designer, graphing application, spreadsheet and database.

On the cover disc accompanying this issue you will find the first part – the Document Designer application – and over the next four months you will be able to collect applications (known as *HomeWorks* modules) which implement the main parts of the package, and control their integration.

The *HomeWorks* applications you will find on this and the next few months' cover discs are neither public domain nor shareware. Early next year various parts of each application may form the core of a considerably more advanced integrated package.

Tony Patterson and James Harrison explain the first part of the best application ever to appear on an Acorn cover disc



The main button bar when a text frame is selected

We would like this application to be designed around comments and suggestions made by you the user, and you are welcome to write to us and tell us what features you would like to see in a possible release version.

If this version is released, *Acorn User* readers will be entitled to a 40 per cent discount off the expected retail price of £50. Simply save all the vouchers that accompany each *HomeWorks* module in *Acorn User* to claim this discount; our address follows at the end of the article and the coupon is on page 27.

The document designer

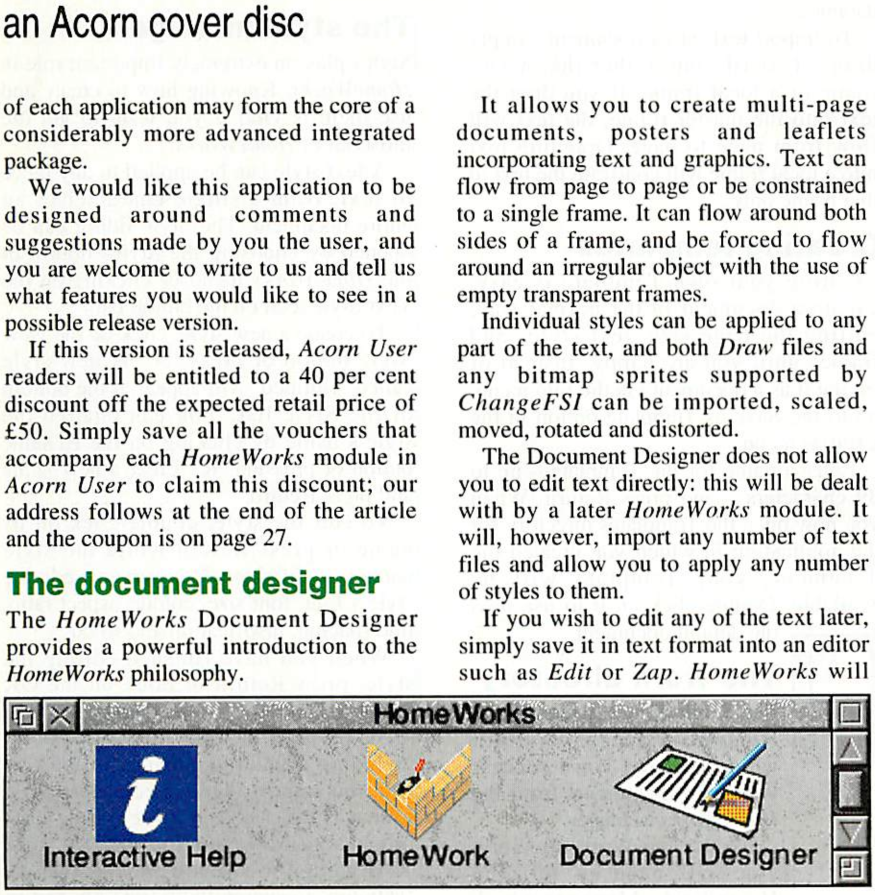
The *HomeWorks* Document Designer provides a powerful introduction to the *HomeWorks* philosophy.

It allows you to create multi-page documents, posters and leaflets incorporating text and graphics. Text can flow from page to page or be constrained to a single frame. It can flow around both sides of a frame, and be forced to flow around an irregular object with the use of empty transparent frames.

Individual styles can be applied to any part of the text, and both *Draw* files and any bitmap sprites supported by *ChangeFSI* can be imported, scaled, moved, rotated and distorted.

The Document Designer does not allow you to edit text directly: this will be dealt with by a later *HomeWorks* module. It will, however, import any number of text files and allow you to apply any number of styles to them.

If you wish to edit any of the text later, simply save it in text format into an editor such as *Edit* or *Zap*. *HomeWorks* will export style information with the text, so when you re-import it into *HomeWorks*, all styles are restored to the text. Saving text is explained later.



The HomeWorks Filer, containing the Interative Help icon, Work directory and the Document Designer icon. As more modules are added, they will appear here. Double-click on the Document Designer to show a list of available Template files.

The HomeWorks manager

The most important part of *HomeWorks* is its user interface. We have tried to design it to be as easy to use, flexible, powerful and expandable as possible.

Instead of making one program do everything, with the resulting complexity that arises from a spreadsheet trying to behave like a database, or taking four main individual programs and 'cutting and pasting' them together, we have taken the approach that, while a page layout application needs extensive page setup facilities, a graphing program doesn't.

In a database you want to be able to create fields and perform sorting, searching and report generation, and a spreadsheet should provide you with control over numbers. The concept behind the *HomeWorks* user interface is consistency – an interface that, while adapting itself to suit the task in hand, retains a similar look and feel throughout.

The *HomeWorks* Manager provides a front-end that brings together the various *HomeWorks* modules, the *HomeWorks* Templates, the Work directory and Acorn's *Help* application.

HomeWorks provides comprehensive support for interactive help, and help is available for all menu items in addition to all available icons, buttons and windows. We strongly recommend that you use interactive help to get to know *HomeWorks*.

You can tailor which icons appear in

the Filer window by using the Choices dialogue box from the icon bar menu. Simply set the relevant buttons and click on Set.

A *HomeWorks* Template is similar in concept to a default document or style sheet. A simple Template – the one that is used when you first click Select on the *HomeWorks* icon to open a new document – is an A4 page with an empty master frame into which you can import text.

A more advanced Template could be a company's letterhead, containing a scan of its logo, the address, a greeting and a salutation, and a frame into which you can import the text.

This Template could also contain the company's standard 'house' text style, so that any text imported into the letter frame would appear in the correct style automatically. A Template can also contain printing information.

HomeWorks Templates are not limited to the *HomeWorks* Document Designer. Each *HomeWorks* application has its own Templates directory containing a selection of useful Templates.

For example, a Database Template is simply a database containing no records – the card layout has been designed and any text entered into the various fields will appear in the correct styles.

Creating documents

When you click with Select on the *HomeWorks* Manager icon, the Manager loads a default Template and opens a document for you to work with. The default Template can be a document, spreadsheet, graph or database Template. The *HomeWorks* Manager will run the appropriate module, though this month, of course, the Template loaded is a document. Templates are stored internally inside the *HomeWorks* Manager.

You can open *HomeWorks*' Filer window either by clicking with Adjust on the *HomeWorks* icon or by choosing the Filer option in the icon bar menu. This will open a window containing a Document Designer icon, the Work directory icon and the Help icon. Whenever you install another *HomeWorks* module it will appear in this window.

Double-click on the Document Designer icon to open its Templates directory. Inside this Templates directory you will see three *HomeWorks* documents with file names *<Unnamed>*, *Letterhead* and *Acorn User*. A *HomeWorks* Template can have up to 39 characters in its name.

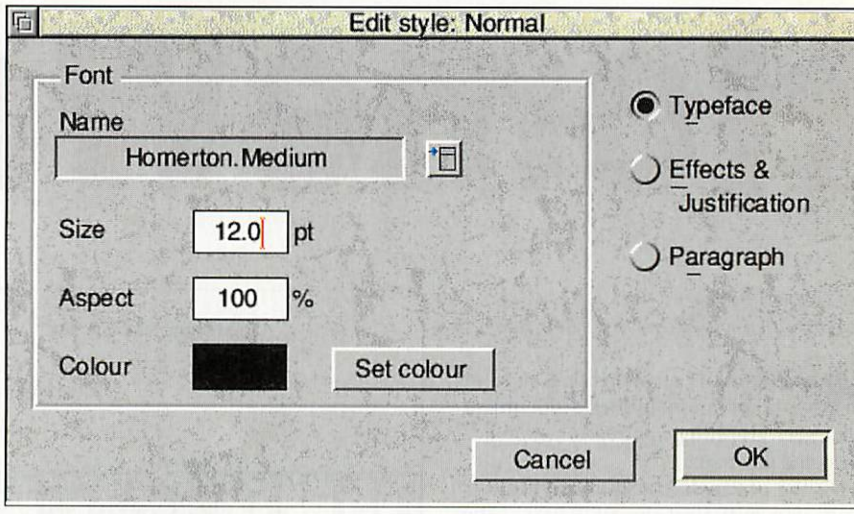
To make *HomeWorks* use the *Letterhead* Template by default, simply double-click on it. A document based on the *Letterhead* Template will open, and when you now click on the *HomeWorks* icon, this will be the default document loaded. The same process applies for when you want to use the graphing application, the spreadsheet and the database.

To import text into a document, simply drag a text file into either the master frame or a local frame. If you drag the text into the master frame, the text will flow from page to page. Dragging text into a local frame will constrain the text to that frame only.

Creating templates

Creating your own Template is easy. Create a document in the normal way, editing the page size, text styles and frames until you are happy. Instead of saving it as a document via the File menu, go to the Save as Template option in the Utilities menu.

Enter a name for the Template – up to 39 characters – and press Return. When you now open the Templates directory for the application in which you created the document, your Template will be available. Double-click on it to use it as the default document.



The Style Editor dialogue box. Clicking on one of the three icons on the right displays the different attributes for the style. Note the underlined letters for quick key access: pressing E will show the effects and justification box.

The work directory

The Work directory icon in the *HomeWorks* Manager Filer window allows you to access your own documents from the *HomeWorks* Manager.

To use the Work directory, you will need to tell the *HomeWorks* Manager which directory on disc to link the Work icon to. This can be achieved by opening the Choices window from the icon bar menu and dragging the Work icon from this window into an the relevant directory. You can also type a name of up to 39 characters into the Name field: this is the name displayed in the Filer window.

Click on the Set button to save this setup for future use. Whenever you now double-click on the Work icon in the Manager's Filer window, your own directory will be accessed.

The style manager

Styles play an extremely important role in *HomeWorks*. Knowing how to create and use them is vital if you want to get the most out of *HomeWorks*.

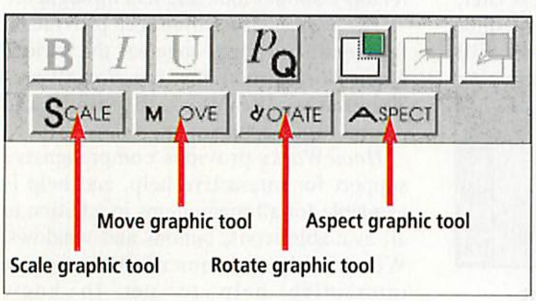
A text style can be applied to any piece of text, from a single character to an entire document. The Style Editor can be opened by choosing the Styles option in the *HomeWorks* menu or clicking on the Text Style icon on the button bar.

To create a new style, click on the New Style button or press 'N'. A new style called 'Untitled' will appear at the bottom of the Style list. You can change the style's name by clicking on the Rename button or pressing 'R'. Enter a new name and press Return.

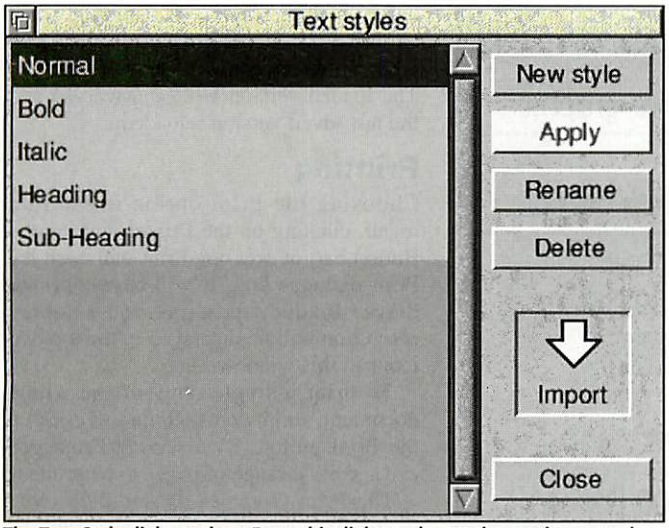
To edit the style, double-click on its name or press Return while the style name is highlighted. You can now edit the style's font, font size, colour, aspect ratio, line spacing, justification and so on.

When you have finished editing the style, press Return or click on the OK button to close the Style Editor.

Styles can be included in text by including special commands in the text file you import. This special 'tag' file format is described in a file on the disc, but essentially you include the text '@Heading:' to switch Heading style on, '@Italic:' to switch Italic style on, and so on. An example tag file is included on the disc for use with the default document.



The left-hand side of the main button bar when a graphic frame is selected



The Text Style dialogue box. From this dialogue box styles can be created, renamed, deleted or applied, and double-clicking on a style name in the scrollable window displays the Style Editor box.

Keyboard shortcuts

A feature unique to *HomeWorks* among Risc OS applications is that of keyboard control of dialogue boxes. Almost every radio and option button in each dialogue box has a key associated with it. Where possible, the appropriate letter in the button's description is underlined, and pressing that key will select that option.

Whenever you find a pair of up and down arrows next to a writable icon in a *HomeWorks* dialogue box, clicking on them will increment or decrement the value by 1. If you hold down Shift while clicking, the value will be incremented or decremented by 10. You can also use the cursor and Shift keys for fine-tuning the position of graphics frames, while holding down Select on a frame handle.

Editing the paper size

The page size can be altered by choosing the Alter Pages option in the Edit menu. The Alter Pages window allows you to specify the page size you want to use, from A2-A5, Letter, Legal, Fanfold, Custom or As Printer, and whether it should be in Portrait or Landscape mode. The keyboard shortcuts for the page sizes A2-A5 are function keys F2-F5.

Clicking on the Dimensions Setup button opens the Page Dimensions dialogue box in which you can set the margins for the master frame.

You can do this either by entering the values in the writable icon by dragging the edges of the master frame into the correct positions. The pointer will change to show this.

Units

HomeWorks can work in four different units: millimetres, centimetres, inches and points. Unlike most other programs however, *HomeWorks* allows you to specify a different unit for each writable icon that can take numeric input.

For example, you may decide that you want to use points when entering font sizes and line spacing, millimetres for the x and y offsets of a graphic in a frame, and centimetres for the page margins.

Whenever you see mm, cm, in or pt next to a writable icon in a dialogue box, you can move the mouse pointer over the unit; the pointer will change into a ruler, and you can cycle through the available units by clicking with Select or Adjust. The value inside the writable icon will automatically be converted to the equivalent value in the chosen unit. You can override the default unit for an icon by typing either mm, cm, in or pt after the value: '12.5mm' for example.

Frames

A frame can contain either a piece of text or an image, and *HomeWorks* allows you to freely swap between text and images in the same frame. Frames can be created with the New Frame option in the Frames menu, or by clicking on the Create Frame icon on the button bar.

HomeWorks provides the facility for you to create several frames in a row without the need to keep choosing the New frame option. Simply click on the New Frame icon in the button bar with Select or Adjust – or the New Frame menu option with Adjust – as many times as you want to create new frames, and then create each frame in the document.

Frames can be resized by clicking and dragging on the eight frame handles round the selected frame.

Also, frames can be altered in more detail using the Alter Frame dialogue box. This can be opened by either choosing the Alter Frame option in the Frame menu, or by pressing Ctrl and double-clicking over the frame you want to edit.

The Alter Frame dialogue box allows you to alter the background colour – including making it transparent – and border style and colour of the frame.

It also enables you to lock the position of a frame to prevent it being moved accidentally, and it allows you to set a repel text distance. The repel text distance is the distance between the edge of the frame and the text.

If you find that certain frames become hidden behind other frames as you edit them or create more frames, you can adjust the stacking order of the frames using the Bring Forwards, Push Down Stack, Bring to Front and Put at Back menu options in the Frames menu.

You can also delete frames via the Edit menu or the cut icon on the button bar.

Importing images

HomeWorks can import *Draw* files as well as any image format supported by *ChangeFSI*, the latest version of which supports over forty formats including Photo CD and JPEG. If you have version 0.88 of *ChangeFSI* or earlier you should read the release notes on disc.

To import an image into a *HomeWorks* document, simply create a new frame and drag the image into it.

Altering images

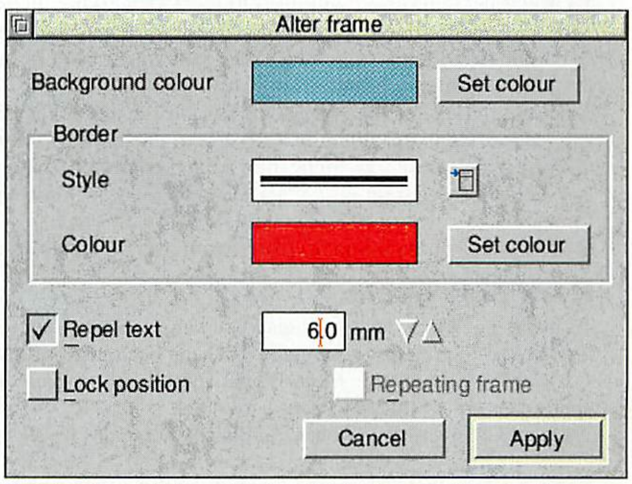
When you select a frame containing an image, four buttons will appear on the button bar. These buttons allow you to Scale, Move, Rotate and change the Aspect ratio of the image in the frame.

Simply select the operation you wish to perform and then drag with Select or Adjust over the image.

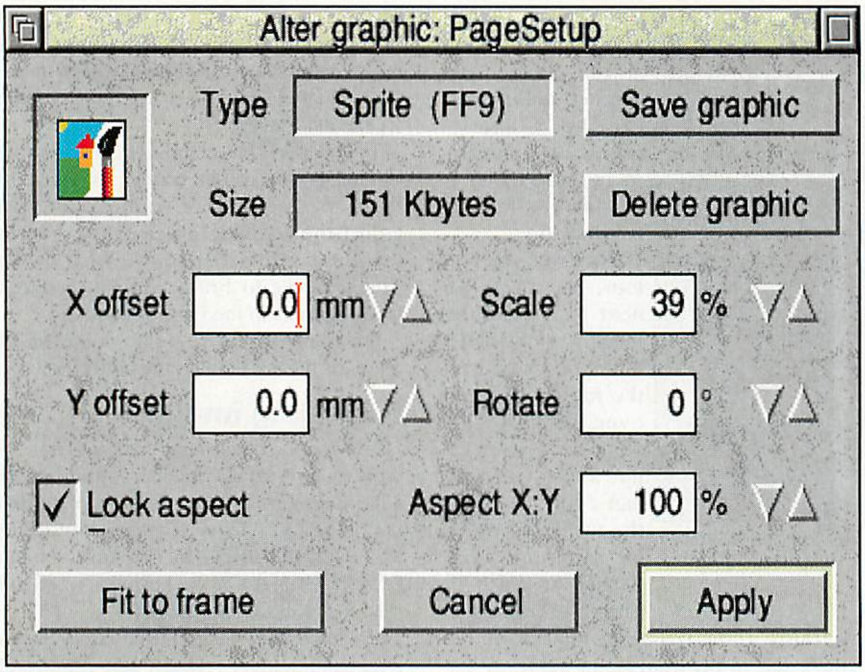
An image can also be altered via the Alter Graphic dialogue box. This can be opened either by double-clicking on the image with Select or Adjust, or by choosing the Alter Graphic option in the Edit menu.

Saving

HomeWorks uses the *Squash* module to compress and decompress documents when saving to and loading from disc. This means that a document that requires 1Mb of Ram to view on screen may require only half that amount on disc.



The Alter Frame dialogue box. Use this to change a frame's colours, border and text repelling attributes. Clicking on Set Colour displays the Colour Picker box from which you can choose your desired colour.



The Alter Graphics dialogue box. This is displayed when you double-click on a graphic, and enables you to alter the shape and size of the graphic. Clicking on the window's size icon (top right) opens up the box to enable you to delete or save the graphic.

To save a document, either click with Select on the Save icon on the button bar, choose the Save option in the File menu, or press F3. A Save box will appear, and once you have entered the correct name, you can drag the icon to a Filer window or click on the Save button if a pathname is present. You can save text or graphics from within a frame by clicking with Adjust on the Save icon on the button bar. Text can also be saved by pressing Ctrl-F3 or using the Export menu.

Graphics can also be saved from the Alter Graphic box by clicking on the dialogue box's Toggle size icon and clicking on Save Graphic. This section of the Alter graphic dialogue box also allows you to delete an image from a frame, freeing memory if Ram is getting low.

However, the simplest method for saving text or graphics is to select the relevant frame, press Shift over the frame and start to drag with Select or Adjust. An icon appears which can be dragged to disc, or directly to an editor's icon. This enables text and graphics to be easily edited, and saved back into *HomeWorks*.

Revert to Saved is a useful option if you wish to experiment with the design of a document. Simply save the document before making any major alterations, and should you decide that you don't like what you see, choose Revert to Saved. The loaded version will be discarded and the last saved version reloaded.

Printing

Choosing the Print option in the File menu, clicking on the Printer icon on the Button bar, or pressing Print will open the Print dialogue box. If you have a printer driver loaded, its name and selected resolution will be displayed in the top two icons in this window.

To print a single copy of the whole document, simply press Return or click on the Print button. By selecting From you can specify a range of pages to be printed.

The Print Graphics option allows you to specify whether or not graphics will be printed. This option is independent from the Hide Graphics option in the Utilities menu, which only prevents the images from being displayed on screen.

Turning Print Graphics off will save you a great deal of time and ink if you are using a dot-matrix or ink-jet printer.

The Set Values button is of most use if you are creating several documents which you wish to print at a later stage by dragging them onto the Printer Manager icon on the icon bar.

By clicking on Set Values, the chosen printer options will be saved with the document or Template file.

Next month

Next month we will be presenting the *HomeWorks* Graphs and Charts module. The first coupon for registration can be found on page 27.

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Installation

Floppy disc users

To use *HomeWorks* you will need to create a working disc that contains an uncompressed version of *HomeWorks*. If you do not have one, you will need to prepare a system disc that contains *!System*, *!Scrap*, *!Fonts* and *!ChangeFSI*. Do as follows:

1. Format two discs in either 800K (E) format or 1.6Mb format.
2. Create a Ram disc of about 500K.
3. Double-click on the *HomeWorks* icon on the cover disc. A Filer window will open containing the actual *HomeWorks* application. Copy this onto the Ram disc to uncompress *HomeWorks*.
4. Copy the *HomeWorks* application from the Ram disc onto one of the formatted discs.
5. To create the system disc, copy *!System*, *!Scrap*, *!Fonts* and *!ChangeFSI* off the Risc OS 3.1 application discs onto the second formatted disc.
6. Whenever you now want to use *HomeWorks*, open the system disc Filer window before running *HomeWorks*.

Hard disc users

To use *HomeWorks* on a hard disc you simply need to uncompress it and ensure that *!System*, *!Scrap*, *!Fonts* and *!ChangeFSI* are seen by the Filer before running it. This can be done as follows:

1. Double-click on the *HomeWorks* icon on the cover disc. A Filer window will open containing the actual *HomeWorks* application. Copy this onto your hard disc.
2. Open the directory on your hard disc that contains *!System*, *!Scrap*, *!Fonts* and *!ChangeFSI* before running *HomeWorks*.

Note: A file called *!!Release* is included on the disc which contains details of features not mentioned in the article. You should read this file before running *HomeWorks*.

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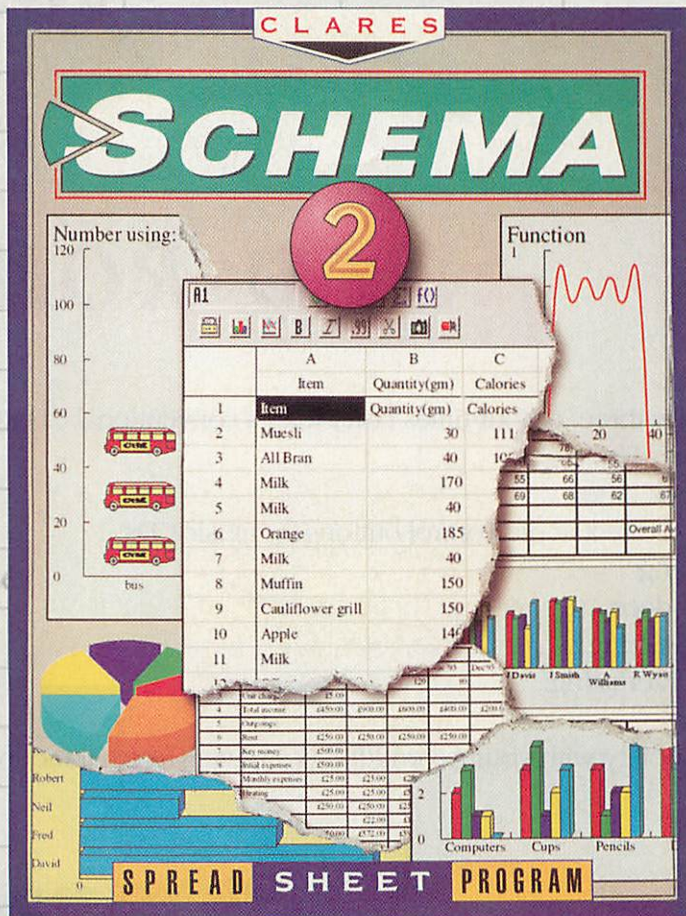
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Electric studio

Pete Worrall explores unusual ways to tap into the extraordinary versatility of Acorn computers

Designing a space to explore new technology became a dream come true when I was asked to run an Electric Studio for two weeks in May, which is how it all began.

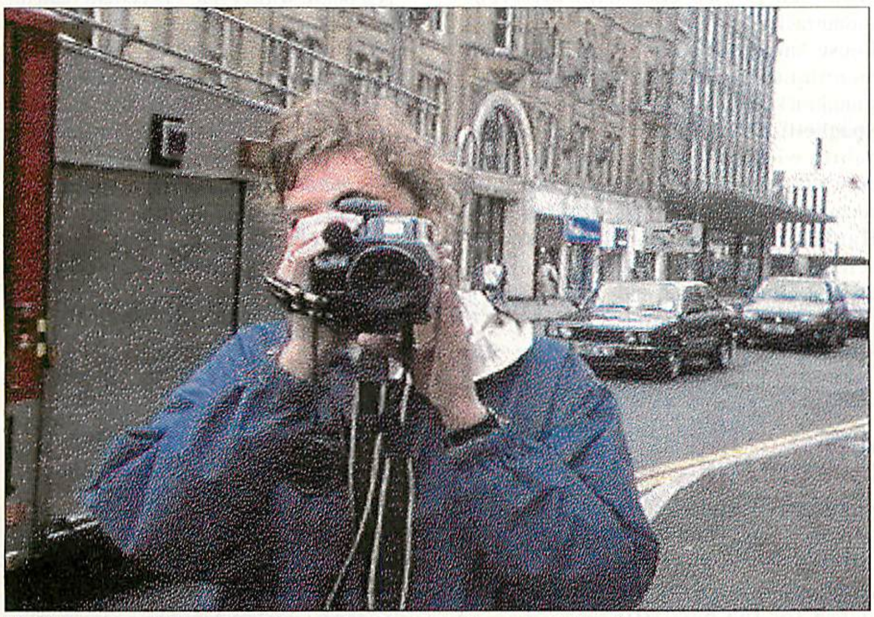
The Birmingham University of Central England's innovative PGCE teacher training course has European links through the Erasmus foundation.

This provides the opportunity to work with graduate students at European Universities.

This year 12 students from UCE were paired with 12 students from the Universities of Seville in Spain and Dordrecht and Leiden in Holland to explore a common theme – Art and New Technology – for two weeks in May.

This is where I came in with a brief to sort out a multimedia experience for 25 students using ten Acorn computers on a fixed – i.e. small – budget.

Two months before the event was due to take place, I set about designing a special Electric Studio space, integrating computer and video technology, in a natural way for the students to play with and explore their ideas, with the final objective of creating a five minute film integrating computer technology with video technology.



Watching me, watching you — images from a camcorder were digitised

Preparation

This proved to be the most difficult part of the operation but after thoughtful consideration and discussion, four clear areas emerged as significant.

Firstly, which was the best space to house the event? Secondly, certain essential hardware and software would be crucial to the success of the event, but which? Thirdly, how should the resources be correctly deployed for ease of use and finally, what about the cost?

After consideration, the first solution was in finding a large studio space which fortunately was close at hand next to the IT area at UCE. I then decided to create three hardware areas within the Electric Studio with three specific key systems set up for this purpose:

- An A5000 computer with the Eagle MK2 Multimedia card (£1500 approx) to be used for recording events taking place in the studio.
- An A400 series computer with a Wild Vision Genlock Board and Pineapple Digitiser linked to a monitor and video recorder (£1500 approx). The Genlock board would be used for transferring computer graphics, animation and special effects from the computer screen onto video tape.
- A Panasonic AVE5 Video mixing desk (£800) plus monitor (£200), with two video sources (£1700) and a video recorder (£300) to be used for creating the final cut. This mixer proved invaluable due to the 96 different video effects available for overlaying computer graphics.

The two video sources would be juxtaposed and mixed on screen together. Audio could also easily be soundtracked and mixed with the visuals.

The total cost for these key systems was approximately £6000 including cameras.

In addition, seven further computer systems were available in an adjoining room.

After deciding on the key systems, I designed (using *Draw*) a plan describing a possible layout. In this case three rooms were used; one with seven computer systems for image processing and animation, a main larger 'electric' studio space with the three key pieces of equipment, and a room for viewing the films, including a new Pete Worrall computer art exhibition called Electric Eight and Three Quarters.

Essential key software

The software had to be user friendly but effective and powerful enough to fulfil my objectives, because the European students had little or no experience using Acorn computers.

Therefore, for general image processing we used Longman Logotron's user-friendly *Revelation Image Pro*. The obvious choice for animation was Iota's *Image Animator*.

In addition I chose Oak's *Rephorm* for those extra special morphing effects, plus a selection of my favourite *Acorn User* cover discs containing wizzy demos for general inspiration.

Essential extra equipment

My shopping list also contained the following: a Canon Ion Camera and an extra Video Camera, two slide projectors and a TV and a VCR. Leads are also crucial, as I found out with the mixer in particular.

BNC, Phono and Scart were needed in abundance – and in different permutations – plus plenty of four-way adaptors.

Consumables had to be costed in as extra and comprised the following:

- 10 Canon Ion Discs @ £6 each: £60
- 100 Floppy Discs @ 40p each: £40



Funky Moves, courtesy of *Revelation Image Pro* and *Image Animator*

- 30 VHS Video Tapes @ £2 each: £60
- Various Cables: £30
- Art materials: string, card, paint etc: £40
- Final Mix including 4 copies: £70
- Grand total: £300.

Although the overall cost appears daunting, much of the additional hardware was loaned from other sources.

Diary of events

A week before the event, after I had gathered, begged and borrowed all the equipment, I ran two evening induction sessions with the 12 UCE students from Birmingham who were to act as mentors for the 12 European students.

This was to familiarise ourselves with the idiosyncrasies of setting up the equipment each morning at 8.30 am and to safely disconnect the equipment at the end of the day.

Upon the arrival of the European Students all I could do was to take a deep breath and let events run a natural course, with the hope that everyone would have an enjoyable time exploring new technology and end up with it all recorded onto videotape – surprise, surprise this is exactly what happened.

It would be impossible in such a short space to describe all the weird and wonderful things that happened during the two weeks, however I will try and give you a flavour of some of the best bits.

The films

Five short films were produced by five groups of five students during the two weeks:

Funky Moves and The Scream: a groovy dance film, which included video footage of slide projections overlayed with a computer-animated dancing figure and a funky soundtrack.

Under a Wandering Star: a disturbing theatrical piece with morphing angels, produced in two cuts with different soundtracks.

Loose: an abstract film using innovative techniques including morphing pots, soundtracked with avant garde jazz.

Spaghetti Eaters: funny bourgeois eating habits with hats, projected tarts plus computer animation and morphs, accompanied by a hilarious soundtrack.

Hands and Faces: European harmony across a multi-ethnic divide, including digitised faces, stars and flags with a rock soundtrack, an appropriate final film on the compilation video.

A few of my favourite things

Spaghetti Eaters: This film is concerned with different ways of eating spaghetti and scoops my award for the best still image grabbed through the Eagle M2 digitiser, in the form of Sue sitting at a table with hat contemplating the joy of spaghetti eating.

The backdrop and props were created by this group so that the strong light and shadows would increase the film's visual impact.

Spaghetti Eaters also contained the best title sequence which was created using *Revelation Image Pro*. They did this by creating a small initial page and producing the first frame, which was the hand drawn title with a plate of spaghetti. This was saved onto disc.

Next, changes were applied to frame 1 with more whirling yellow spaghetti which was saved as frame 2. Four more changes were made and saved as films.

The sprites were finally loaded into *Image Animator* for a final edit, with the option to duplicate and draw over frames before saving in 'Film' format for playback.

A saved film can be replayed as a full screen and recorded onto videotape via the genlock board as happened in this case, providing the punchy introduction to the film.

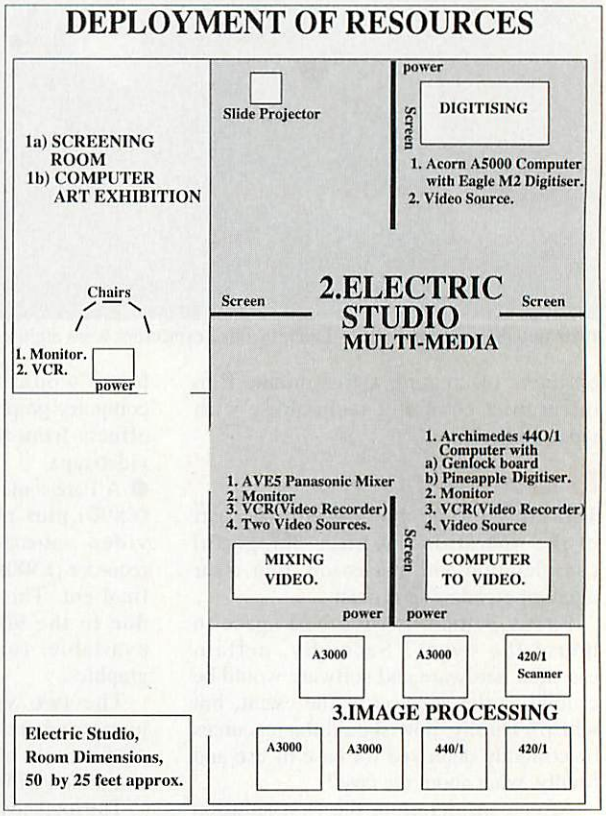
Funky Moves: Rock stars rely on computer/video techniques to sell their latest hits and it comes as no surprise that certain effects can be easily produced through image/animation.

It is amazing that so few Acorn computer animators make use of this simple technique. In Funky Moves, real dancing figures are drawn over, turned into cartoon characters and animated using computer software before transfer to videotape.

To begin with, Pilar's excellent dancing was recorded onto video tape and played back through the Eagle M2 digitiser.

This is easy to do because once a sprite is dragged to a destination, each subsequent save is executed by selecting the red record button.

Before doing this the frame size was set at whole screen, on 4.3 ratio. Six frames were selected and saved from a five second section of the film. It was then

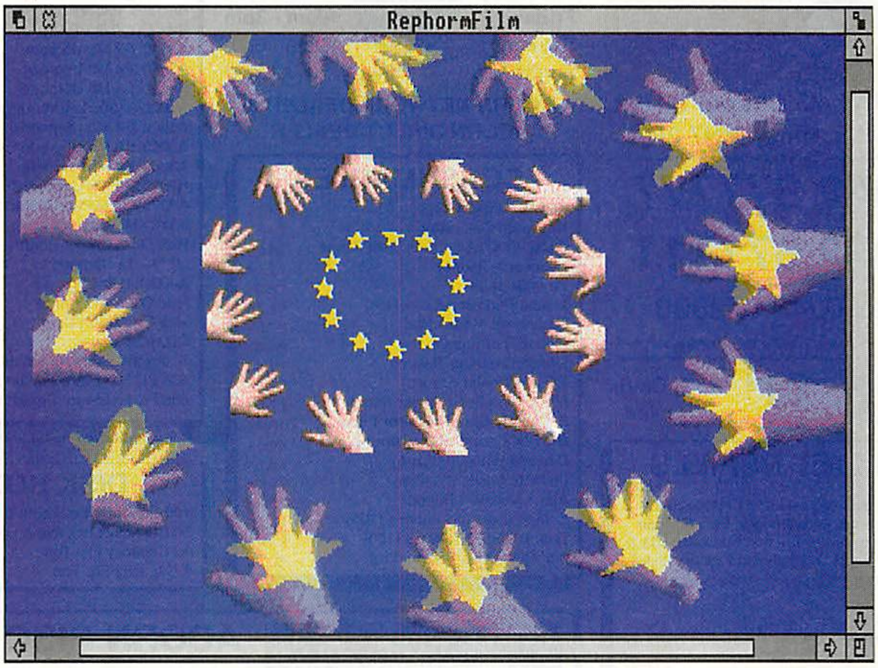


The layout for the Electric Studio

important to load the images into *Image Animator* to preview the sequence as a film, to make sure the movement was reasonably fluid.

The digitised images were then loaded into *Revelation Image Pro* for editing. This is great fun, but requires care and patience using the drawing tools.

Finally the six saved, edited, digitised drawings were loaded into *Image Animator* and saved in film format in full-screen mode, before playing back through the computer with the Genlock board and transferring to video tape. This interesting technique was used to great effect with other figures in this film.



Hands and Faces — creative use of morphing

Student Perspectives

Many students documented the event as part of their PGCE teaching coursework: here are two abbreviated accounts.

Group 5 – Sarah Saunders on Hands and Faces

'Our group decided to explore a European theme. As there were four cities involved, the film began with a representative from each city turning round on the screen.

'We started by using the video camera to capture our portraits, head and shoulders. This involved setting up the video camera on a tripod and individually standing in front of it.

'It became important to consider our multi-cultural audience by communicating ideas without a lengthy explanation, so we chose universally understood symbols, flags, hands, faces and words.

'Text (our European cities) was then floated across the faces, flashing on and off. The animation was then worked on in *Revelation Image Pro* where our faces were painted a different colour to represent our personalities.

'Chance and randomness produced some interesting effects which we tailored to our advantage, including filming directly from the computer monitor, and this together with a soundtrack led to the creation of a successful piece of work'.

Sarah Saunders on Image Manipulation and Morphing

'Firstly we used the Canon Ion Camera to record our hands. These were then digitised, saved as sprites and manipulated in *Revelation Image Pro* using Cut, Paste and Scale to reduce their size.

'The 12 hands were then arranged in a circle on a blue background. The same process was carried out with the star – except that it was a scanned image – and the flag was created.

'*Rephorm* did the rest. We loaded the stars into the left-hand box (labelled Start) and the hand into the middle box (labelled End). The right-hand box gave a thumbnail playback view of the morph.

'This was then saved as a film and played back using the public domain *Projector* as a full screen film, before recording onto tape. In retrospect, perhaps this is morphing in the correct context.'



The introduction screen to *Hands and Faces*

Jonathan Gill on Hands and Faces

'We were keen to create work using traditional 2D/3D technology and skills that could then be developed through the use of IT. We wanted the theme of our project to focus on European Unity.

'Our group included members with wide ranging specialisms including Fine Art, Jewellery, Silversmithing, Architecture and Psychology.

'Through discussion it was felt that hands should be employed to symbolise European unity. The European flag of a circle of stars was also an image which we wanted to include. We therefore combined these two ideas and created a circle of hands which morphed (using *Rephorm*) into the circle of stars in a rhythmical cycle reminiscent of a heartbeat, before recording this sequence onto videotape.'

Parting shots

An extraordinary amount of effort determined the success of this event and I am left with five films combining different technological processes.

During two weeks of workshops, computer art exhibitions and lectures, much was achieved due to the spirit of all involved, for which I am greatly indebted.

In my opinion, given determination and a bit of creativity, anyone can set up an Electric Studio. Preparation is most definitely the key to success. At the end of the two weeks we all sat down and screened the films and everyone was amazed at the diverse results which will hopefully spread the Acorn message a bit further into Europe.

It is important to remember that all this was produced by using low cost Acorn software and fast Risc technology. Admittedly, some effects were generated by the Panasonic Mixer, but the important bit was the integration of computers and video in a natural way to produce a profssional end product.

Everyone involved was motivated, worked as a team and experienced a sharp learning curve, which will hopefully result in more Electric Studios – I just can't wait for more.

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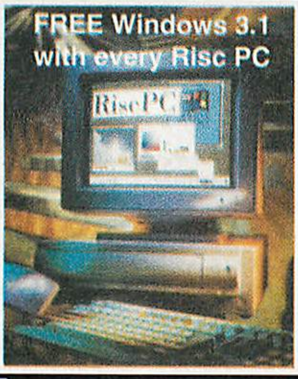
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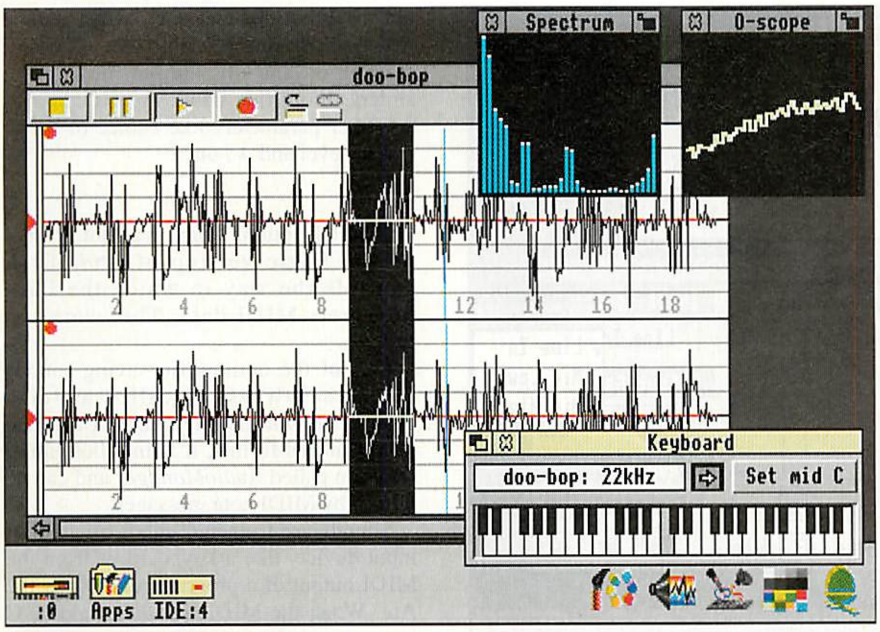
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What a Lark

Richard Garrett looks at the newest sound card from Computer Concepts



AudioWorks: the various displays

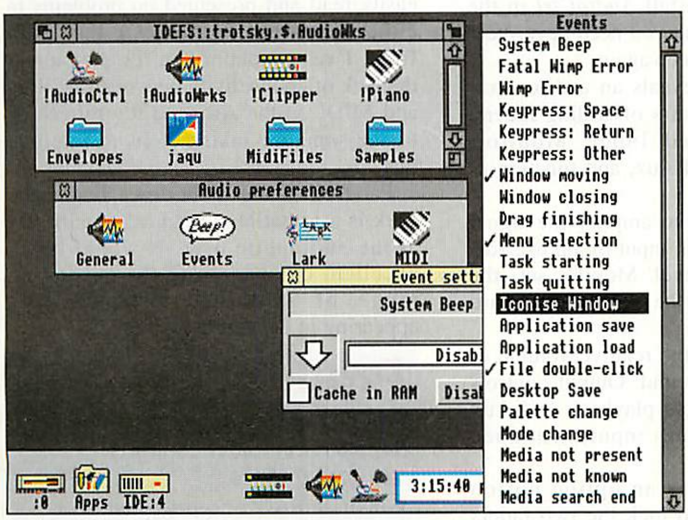
A few months ago, when we reviewed the Computer Concepts/Wild Vision Eagle Multimedia card, it fell to me to look at its sampling and audio capabilities.

At the time, I was suitably impressed but, as someone who likes playing with sound but has little time to make movies, I couldn't help feeling that this was an expensive way to buy a decent sampler.

It seems that this fact hadn't escaped the manufacturers either for, hot on the heels of the Eagle (if eagles have heels), they've just released a 16-bit audio system for Acorn computers called Lark.

The Lark card is a single-width podule which can capture and play sound samples, play the Arc internal sounds and support a full Acorn standard MIDI port.

The accompanying software suite contains new versions of *Audio Control* configuration and control software and the *AudioWorks* sample editor that came with the Eagle, as well as numerous demo samples, envelopes and MIDI files, a MIDI player called *Piano* and an application called *Clipper*, about which I'll talk later. Lark is compatible with A300/400, A540, A3000, A5000 and Risc PC machines, with at least 2Mb of Ram running Risc OS 3.1 or later and, for best results, requires an Arm3 processor.



AudioCtrl's beep! function – no more system beep

The hardware

On the audio side, the Lark talks to the outside world via the following connectors: a 5-pin DIN socket for 'line-level' input and output to hi-fi equipment, a 3.5mm jack socket for headphones or active speakers and another 3.5 mm jack for microphone input. According to the manual, the 3.5mm connectors used are of a European design which is of higher quality than, but incompatible with, Japanese equivalents. So much for 'standards' (mutter, mutter...).

If this is a problem, Computer Concepts will send you a free adaptor for your Japanese equipment, in exchange for a voucher that comes with the package.

MIDI connection is via a 15-pin D-type socket on the card which joins to flying lead or 'pig-tail attachment' featuring three conventional 5-pin sockets colour-coded for MIDI IN, OUT and THRU.

Internally, the card uses a short ribbon cable connected to the motherboard to redirect VIDC audio through its hi-fi outputs and can, optionally, be connected directly to the Arc's internal speaker for better quality on-board sound.

On some machines the internal speaker lead is not long enough to make this connection, so Computer Concepts has an adaptor (and a voucher) for this too.

The Lark card also has links for another, playback only, 'auxiliary' sound input. Presumably this is for other soundcards but the manual doesn't go into detail.

The Lark can record mono or stereo samples in signed and unsigned linear formats and in Acorn VIDC and µ-law logarithmic formats at 8, 12, or 16-bit resolution as appropriate. It records at 14 different sampling rates, from 5512Hz to 48kHz.

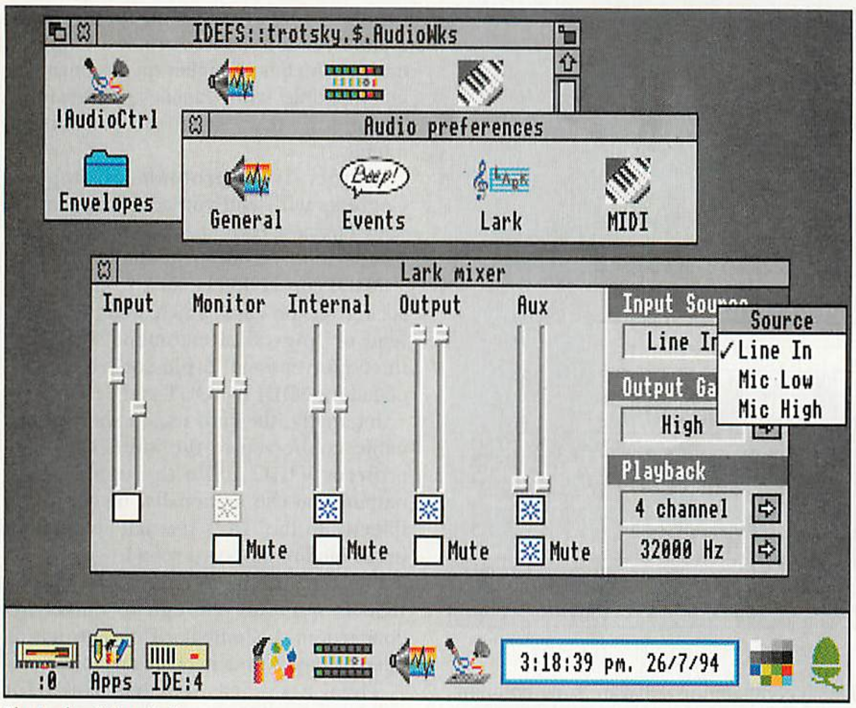
AudioWorks and Clipper

Like the Eagle, the Lark uses *AudioWorks* software (now on version 1.47) to record and edit samples. This application was reviewed in detail in *Acorn User* in December 1993, so I'll just give a brief outline of its features.

AudioWorks is a fairly conventional, if comprehensive, sample editing package. Its main display consists of one or two line graphs which show how the (mono or stereo) sound sample varies in intensity over time.

Above these are four 'video'-style icons (Stop, Pause, Play and Record) and an 'auto repeat' button which toggles between one-shot playback and continuous repeats of all or part of the sample.

Once you've loaded or recorded a



The Lark mixing desk

sample, you can select sections of it with the mouse and alter it using cut and paste editing, looping, pitch and amplitude envelopes, digital filtering, echos, reverse play and so on.

To play samples at different pitches, there is also a 'keyboard' window which plays the original sound when you click on 'middle C' and, when you click on another key, transposes it by the appropriate number of semitones.

AudioWorks has spectrum analyser and oscilloscope displays to show the pitch content and insanity of the sound as it is sampled/played back and, in this version, has a new and undocumented feature called *Clipper*.

This small application displays bar-graph meters on the icon bar which light up from green through to red as the intensity of the sample grows. This indicates when the signal is being distorted by over-recording – a phenomenon known as clipping.

As well as handling its own file format, the software can import samples from several Acorn applications (*Replay*, *Armadeus*, *SoundSynth*, *DataVox*, *Desktop Tracker* and *Symphony*) and from other machines including the Amiga (IFF), the IBM PC (.WAV), Sun (.snd) and NeXT (.au) workstations.

It will also load Acorn voices and, if all else fails, will try to make sense of any raw data you give it. It will export samples in *Replay*, *DataVox*, *Armadeus*, *Microsoft Wave* (.WAV), Voice Module and raw data formats.

Audio control

AudioCtrl is a generic control and configuration utility for sound functions in Computer Concepts/Wild Vision cards. This version has five functions. The first is a one shot playback utility for samples, which works by dragging a sample file onto the *AudioCtrl* when it plays once.

The other functions are accessed from an audio preferences window containing four icons marked General, Events, Lark and MIDI.

The General option sets default record and playback devices (Lark or internal sound), controls the size of input and output buffers and so on. The Events option, indicated by a rather cute icon of a speech bubble containing the word 'Beep!' allows you to configure your machine by assigning your own choice of sound effects to a number of system events.

These include system beep, window dragging, file loading, MIDI events and so on. I quite fancy attaching a blood curdling scream to 'fatal wimp error'.

Once you've made all these configuration options you can save them and, if you like, install *AudioCtrl* in the boot sequence so that you need never hear the default system beep again.

The Lark icon reveals an audio mixer display with five pairs of sliding faders. These are labelled Input, Monitor, Internal, Output and Aux, and function as follows.

Input allows you to amplify the signal from the Line or Mic input by up to 23dB above its default level. Monitor sets the level of sound from the input that is heard from the Lark.

Internal controls the relative volume of the Arc's internal sound. Output controls the volume of sample playback and Aux controls the auxiliary input mentioned above.

Each channel has an option button which allows you to lock the two faders together or move them separately, and all but the Input channel have Mute buttons which allow you to turn individual sound sources on and off without moving the sliders. From this window, you can also set other parameters like choice of input, output level and so on.

MIDI

The MIDI option, which was not present on the Eagle version of *AudioCtrl*, controls the way in which the Lark interprets MIDI data. This works as follows.

One of the options for saving sounds from *AudioWorks* is called a Voice Module. If you double-click on a sound stored in this format, it is installed into a program called *AudioManager* and can be played by MIDI note messages.

Sounds are triggered either by a MIDI input device, like a keyboard or from the MIDI output of a program running on the Arc. When the MIDI signal for middle C is received the sample is played at its recorded pitch, but when other notes are received the pitch is transposed. *AudioManager* voices can also be changed using MIDI program select commands.

The MIDI Settings option in *AudioCtrl* allows you to assign MIDI interpretation to the IN or OUT datastream of any MIDI port on your machine.

At present, it doesn't give any information about the MIDI mode and channel being used by the system, nor does it give a list of currently installed Voice Modules. These parameters are only accessible via star commands.

Verdict

This is a powerful and demanding device. To get the best out of it, you will definitely need a 4Mb machine with Arm3. The audio quality of both sampling and playback is excellent and suffers less from electrical noise than any sampling device for the Arc that I've heard to date.

The manuals are comprehensive and easily read and presented no problems in either installation or use. On the MIDI front, I've complained in the past about the lack of connectivity between sampling and MIDI on the Arc, and it's refreshing to see someone taking steps to improve this.

Far from being a cut-down Eagle, the Lark is a versatile unit aimed specifically at the audiophile user. It would be an excellent companion to the expanding range of synthesiser sound cards appearing in the Acorn market.

Product details

Product: Lark card
Supplier: Computer Concepts
Tel: (0442) 63933
E-mail: Info@CConcepts.co.uk
Price: £199 ex. VAT

See me, hear me

John Woolard and Roger Broadie look at multimedia in schools, and show why it is so important

Fifteen years ago when my school received its first computer I had little idea of the future. Of course, teachers with computers were seeking to develop them and to push the limit of their use, but how could we appreciate that the developments from our 8K Commodore Pet would include the massive memory and speed-demanding activities that four-year-olds carry out today.

From that time Acorn computers have proved to be the most effective machines for the needs of education and fostering these developments?

Multimedia

Using multimedia constructively in the classroom involves the pupil searching, browsing and analysing. It involves them seeing and hearing. It involves them in writing, drawing, making, programming, sequencing, sorting, guessing, deciding, doing.

Multimedia is at the leading edge of educational information technology and can include traditional aspects of IT: word processing, data handling, drawing and painting. It is also broad in its application to the curriculum – all curriculum areas are supported by multimedia.

Multimedia is also at the leading edge of technological development in schools, including the use of multi-session CDs, Photo CD, sound capture, voice synthesis, voice recognition and so on. The classroom use of multimedia has two fundamental aspects.

The first is where educational activities put the pupil in the role of information gatherer. The other aspect is where the pupil constructs the multimedia experience for the communication of information to another audience.

Multimedia authoring

The introduction of multimedia into the classroom has been facilitated entirely by the development of easy-to-use packages like *Genesis* and *Magpie* on the Acorn platform.

Acorn's policy of enabling and fostering complete connectivity of resources to and from all applications was instrumental to the present situation, where pupils as young as five are able to mix text, draw and paint graphics from a wide range of packages.

It would be impossible to identify by name the whole range of available multimedia packages here, but some are typical of the whole or stand out because of their excellence in promoting good classroom practice.

Acorn's CD-Rom project, Horizon, has resulted in a CD packed with good ideas and resources. If you are in any doubt as to the value of multimedia in the modern educational setting then take a few hours to explore this CD.

It is bristling with work of pupils from five to 18, and their teachers.

Sound and voice

The use of voice and sound effects by children in their work has been enabled by the Oak Recorder (and more recently higher quality devices such as the Sound Sampler from Vertical Twist).

Excellent work has been done by Sherston and 4Mation in their development of talking books and adventures, and they have set a standard that our older pupils can emulate through their use of sound capture and presentation. Voice recognition has been achieved in the *Genesis*-based application, *Say It and See*.

The whole world of graphics animation and morphing has been made available to our Secondary school pupils. Indeed, through the use of Iota's *Animator*, 4Mation's *Noot* and Appian Way's *PictureIt*, primary-aged pupils are able to create animations of their own. (We are eagerly awaiting *PrimeMover* from Minerva as well.)

NCET has provided the world with a turn-key format for accessing Acorn CDs. Its 'CDs in Primary Education' initiative is bringing to the fore some excellent primary materials including simulations, adventures and reference materials.

Exploring Nature exemplifies good practice in fostering a scientific approach to exploring the environment with an emphasis on measuring, sensing, testing, searching and recording.

However, younger pupils can simply explore the environment and discover the many natural treats that lie hidden in the backyard, garden, field, lake and moor.

Reference material like the *Times* papers and *Hutchinsons Encyclopaedia* was the original domain of the CD-Rom.

Features such as video shorts, export of pictures and text, indexing and search routines make this a fast, reliable and motivating aid to library research.

Importantly, it supports many of the traditional approaches to library use and enhances the same aims as the traditional librarians promotes in their work. A most important aspect of reference material is the ability to present the text at different readability levels.

As we move into the era of New Literacy, multimedia can only increase in importance. And Acorn machines are well in there.

A text file with all the contact details for products mentioned in this review is provided on the cover disc.

New Literacy

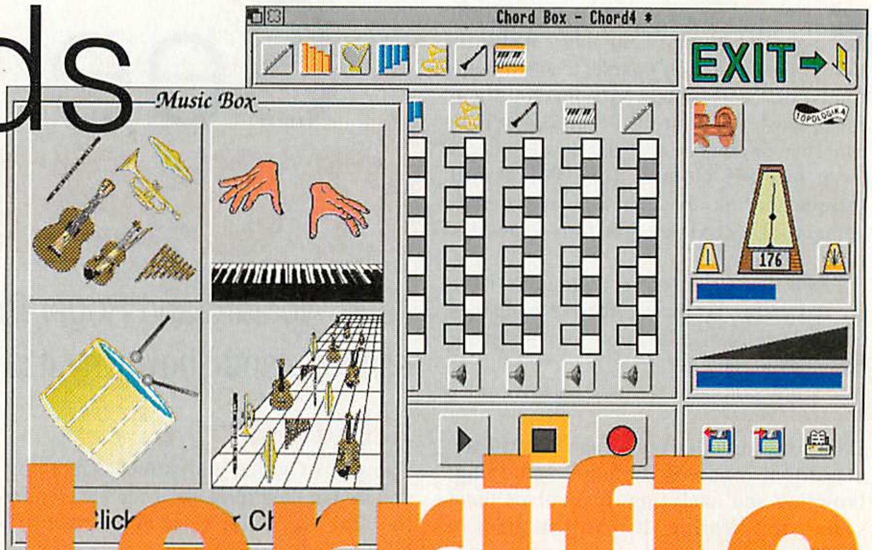
Many commentators have called recently for schools to help children develop an enhanced literacy. In an IT-rich world they must be able to communicate effectively through the use of IT.

While all of the sound basis of literacy and numeracy must continue to be developed, there are some revolutionary changes approaching. A comment like 'there is a requirement for a new and broader definition of "text"' (from *The future curriculum with IT* – NCET) points to the sort of fundamental re-think we all need to have. The communication skills needed are now much wider. Children are already receiving many communications through multimedia – just consider their exposure to TV, advertising and magazines. They need practice 'writing' multimedia too.

At Acorn we use multimedia presentations because they are the most effective way to communicate information and ideas. E-mail is also changing the way we work. Soon the world will have videophones, and that will bring a new element to communication when all your non-verbal signals become visible to callers. Schools with multimedia systems are helping children experience and use these new methods of communication creatively to express themselves, not simply be receivers. Schools should be applauded for all that they are doing to help children to express their literacy through IT – to help them develop New Literacy.

Roger Broadie
Education Marketing Manager, Acorn Computers Ltd

Sounds terrific



Colin Rouse investigates Music Box from Topologika, and finds it to his liking

Music Box is a suite of activities that encourages children of primary school age to explore musical ideas. No reading is involved and children can record their creations and listen to them over and over again, refining as they wish.

Music Box is really four programs in one – the Sound box, Chord box, Beat box and the Tune box. As the titles suggest, each box serves a different purpose.

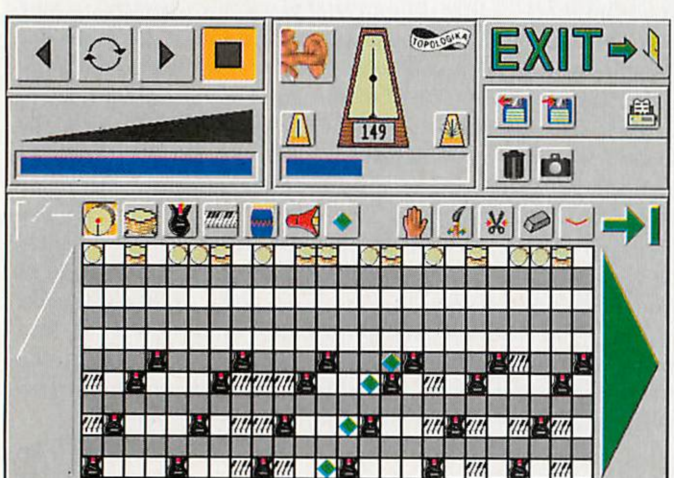
In the Sound box, children can listen to sounds of up to seven different instruments, at different pitches, on a grid of 11 different notes. There are also different sounds to choose from, allowing children to learn about pitch and timbre. In the Chord box, children can construct chords, again using the different instruments and sounds, which can be used singularly or in a combination.

Accompaniments can be created for 'real' instruments, should the children choose.

The Beat box allows children to explore different beats by choosing different percussion instruments. They can experiment with patterns and shapes in a variety of ways.

Finally, in the Tune box children can create tunes by using a grid which represents a musical stave to place musical sounds. Tunes can be edited while being played so that the changes are instantly heard.

Children can also print out their tunes, allowing them to be played on 'real' instruments, or save them to disc.



The Sound box

Options galore

Other useful options include: the ability to control speed, pitch and key of the composition, and the ability for the teacher to configure the application to the needs and abilities of the individual child.

There are also other options to guide and help the child when using the music box program. There is a metronome, which can be heard or silent, to help with tempo. The speed of the metronome determines the record and playback speed of the music. Another very useful feature is the ability to print tunes that have been composed so that the visual sight of the music can be transferred to written music, thus enabling children to progress to written musical notation.

Music Box is a versatile program with many features that have proved useful in the primary classroom. Using the program with children across the primary age range, it proved suitable for all ages and abilities, although it was most useful at Key Stage 1 and the first two years of Key Stage 2.

Contained within the package is a useful, jargon-free manual which clearly explains the various options available and how to use them to get the best from the program.

Also contained are an *In the classroom* booklet and the children's worksheets.

These prove particularly useful to the non-music specialist in providing ideas and starting points to using the program.

Conclusion

Music Box is a useful program to use as a resource in delivering the National Curriculum for music. Although not written with the National Curriculum in mind, it fits in well – especially with the demands of Key Stage 1 – in both Attainment Target One, Performing and Composing and Attainment Target Two, Listening and Appraising.

Music Box is a stimulating, well thought-out music program most suited to Key Stage 1 and the early Years of Key Stage 2 in the National Curriculum, providing a useful way of introducing music to young children.

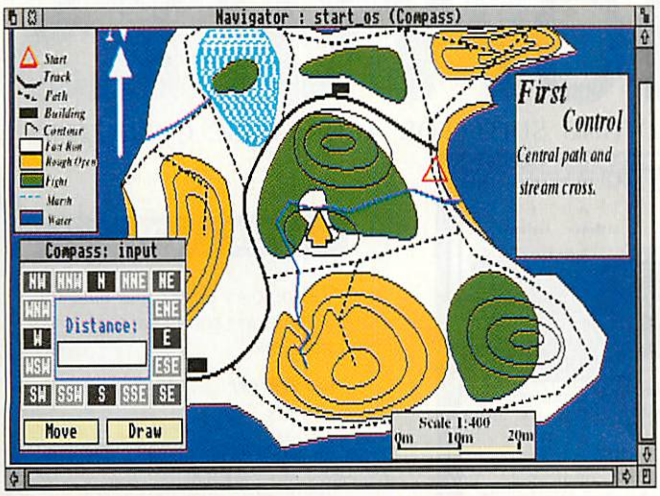
Children at the latter stages of Key Stage 2, while still enjoying the *Music Box* experience, will probably want to use something more sophisticated and I believe Topologika is in the process of developing *Pandemonium*, just such a program: watch this space.

So, although it can never be a substitute for the real thing, *Music Box* provides younger children with the opportunity to explore the feel and sound of real instruments as well as having fun.

Product Details

Product: Music Box
Supplier: Topologika
Tel: (0733) 244682
Price: £35 + VAT
Primary site licence, £25 + VAT extra
Secondary site licence, £40 + VAT extra

Round and round in circles



Orienteering with *Navigator*

As Colin Rouse discovers, exploring Navigator, Topologika's Educational Technology Silver Award-winning software package, is an interesting experience

Navigator is a content-free software pack which is aimed at developing navigation and mapping skills. The program allows users to navigate their way round a variety of screens using a dart of one kind or another.

Screens can be of anything or anywhere but usually contain a map or a plan, and the dart can be designed to any shape and can leave a track.

The options

The user can navigate in a variety of ways. Rubber-banding allows for an easy way of drawing routes onto maps, and turtling provides a simple way of using logo, allowing the user to move round the screen using a series of movements or rotations. Compass points can be used to control direction, using from four to 16 compass points.

For the more advanced, moves can be made using bearings from the north. For those used to Ordnance Survey maps, co-ordinates of up to six figures can be used.

Latitude and longitude can also be used with degrees, minutes and hundredths of minutes, and use is made of vectors with the user moving relative to their current position.

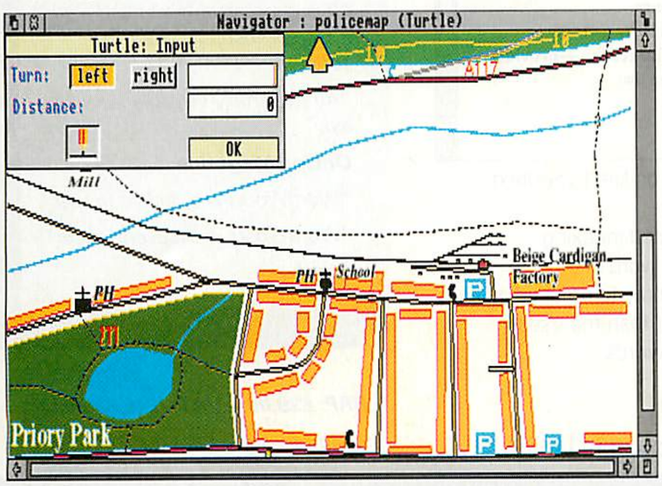
The program allows you to decide on your scale from metres on plans, to millions of kilometres on a map of the solar system. Maps and plans can also be linked, enabling the teacher to start the children from a remote island in the Pacific Ocean, travel by boat to the nearest airport, navigate an aircraft and then travel by car to their house using an Ordnance Survey map.

Included in the package are an activities disc and a maps disc. The activities disc gives ideas that get you used to *Navigator*'s facilities.

There are files that deal with moving round plans, travelling round the world, an orienteering exercise linking six points together, a navigational exercise exploring the use of latitude and longitude, an exercise using ordnance survey maps and symbols and activities in mathematics which allow the user to explore shapes within a square grid.

On the maps disc is a selection of maps but any map can be used with *Navigator*. A good source of these is clip art collections, although with a little patience or a good scanner it is distinctly possible to create your own, to suit a particular purpose.

Minerva Software and the Ordnance Survey are working on a package that can produce OS maps as *Draw* files, which could then be used in *Navigator*.



Turtle input in the Police activity

In the classroom

I have found *Navigator* an excellent program to use in the classroom. I would suggest that the teacher needs to be fairly confident with the Archimedes to obtain the maximum benefit from it and to be able to develop maps to suit the individual needs of the school.

In my opinion, the program's greatest asset is its flexibility. It is relatively easy to configure the program to meet the needs of your particular group or child, who can then work on a particular aspect of navigation at his or her own ability level

It can be used throughout Key Stages 1, 2 and 3 and is a useful tool to use across a range of geographical and mathematical themes.

The program fits in well with the National Curriculum, which is outlined in the accompanying manuals. The manuals also contain some stimulating ideas.

Children found it an easy program if they were used to the Archimedes, developing their geography and mathematics skills with ease.

However, as with all learning, much depends on the teacher and their ability to match the children's learning to the activities on offer. It is not for a teacher who wants a program to give to children and expect them to use it without having thoroughly explored it themselves first.

Navigator isn't intended to replace looking at 'real maps' and seeing what they mean in the outside world, but it does provide children with a real opportunity to participate in mapwork activities in a safe environment where they can try things, explore and have fun while learning.

Navigator would be a useful addition to a school's software library to support work in this area of the curriculum, and Topologika hopes to make further activity packs available in the Autumn.

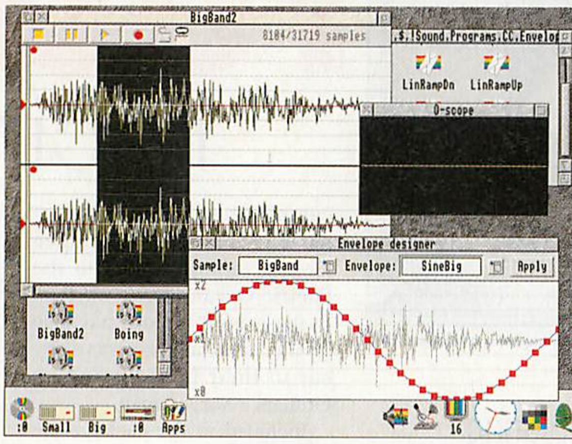
Product details

Product: Navigator
Supplier: Topologika
Tel: (0733) 244682
Price: £45 + VAT
Primary site licence, £25 + VAT extra
Secondary site licence, £40 + VAT extra

AudioWorks

THE COMPLETE SOUND EDITING SUITE FOR ACORN RISC COMPUTERS

The audio capabilities of the Acorn computer have seldom been exploited - but all Acorn 32 bit computers have the ability to play back high quality stereo samples. AudioWorks provides a complete suite of sound editing functions in one easy to use, low cost application.



FEATURES

- Support for 8 bit, 12 bit, 16 bit, linear signed, linear unsigned, VIDC logarithmic, m - law logarithmic, mono and stereo samples.
- Accurate waveform display with instantaneous zoom.
- Cut, copy and paste of any selected part of the sound sample, repeat loops.
- Effects such as echo, reverse echo, amplify, wave form centering, ramp, pitch and amplitude bending, high and low pass filtering, re-sampling etc.
- On screen real-time spectrum analyser and oscilloscope displays.
- Compatibility with a whole range of sound files, including Microsoft .WAV, Armadeus, DataVox, SoundTracker, Creative Voice File, Acorn Replay Movies, Digital Symphony, EMR Sound Synth etc.
- Full background operation.
- Multiple channel and multiple sample operations.
- Supplied with the AudioCtrl utility, which allows you to attach your own sound sample to many different desktop events, such as opening or closing a window or saving a file.

RRP: £49.00 + VAT (£57.57 incl.)

2 Mbytes required

REVIEWS

"Taking over as the standard for Archimedes sound sampling packages."

Acorn User

"AudioCtrl is brilliant!"

"If you are interested in any aspect of sound processing on the Archimedes, AudioWorks is the package for you."

"I was very impressed with its manual and fell in love with AudioCtrl from the moment I laid eyes on it."

Risc User

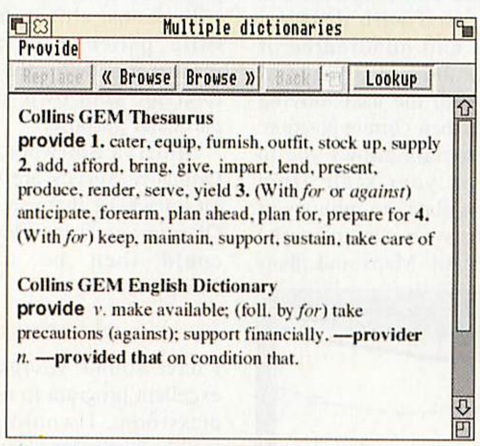
"AudioWorks is to sound, as Impression is to desktop publishing, it has definite class."

"In every area, this is a very polished application, with excellent interfaces - it's decidedly easy to learn and consequently very easy to use."

OnLine Magazine

WordWorks

This stand-alone application works with all word processors and is the ideal assistant for all word processor users.



FEATURES

- Includes a complete English dictionary with full explanations
- Uses licensed thesaurus and dictionary data from Collins, so you can be sure the information is up-to-date, accurate and of the highest quality.
- Presents an exact on-screen representation of the printed page of a traditional paper thesaurus and dictionary - including italics, highlights etc.
- Offers instantaneous lookup of words; once you've found the word or phrase you want, simply double click on it to transfer the selected word to your word processor or editor.
- Includes complete on-line hyper-text help.
- WordWorks advanced indexing system allows any word in the thesaurus or dictionary to be used as a search word, rather than the usual limitation to 'head words'.

REVIEWS

"WordWorks is a simple but extremely effective tool that is a must for all serious users who produce a lot of text."

Archimedes World

"It is a remarkably fast and incredibly useful piece of software."

"An extremely valuable language aid."

OnLine Magazine

"WordWorks is a doddle to use."

"WordWorks is excellent value."

Archive

RRP: £39.00 + VAT (£45.83 incl.)

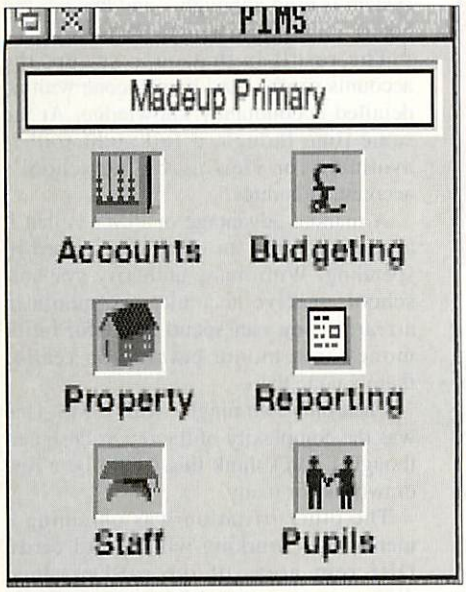
2 Mbytes and a hard disc required

Computer Concepts Ltd

GADDESDEN PLACE HEMEL HEMPSTEAD HERTS HP2 6EX TEL: 0442 63933 FAX: 0442 231632 EMAIL: Info@CConcepts.co.uk

Primary management for all?

Geoff Love takes a look at PIMS, a new primary school administration system solution



Choosing the area to manage

Administrative work in school always seems to be one of those jobs which gives people the most headaches. Keeping pupil information up-to-date, ordering equipment, keeping tabs on different budgets and so on really adds up to quite a workload.

Everybody knows it has to be done but few enjoy actually doing it. Therefore, anything which can make this task simpler or more efficient is likely to arouse interest.

The PIMS system

PIMS (Primary Information Management System) is a joint development between Acorn and Longman Logotron. It aims to provide a total administration system for the primary school.

The philosophy behind it is clear. School management staff progress through the promotion ladder from being classroom teachers – indeed they may still be.

In the majority of primary schools, this means they will be familiar with Acorn computers. Why then, when they come to choose an administration package for their school, are they forced to ditch their skills in favour of PC-based software when a Risc OS package can do the job equally well, or hopefully better?

This thinking is sound. I personally admit to being a PC-phobic when it comes to retrieving information from our school admin system – with PIMS, however, I felt immediately at ease.

Due to the enormity of the PIMS application, there is not enough space here to do justice to all its features. I will therefore concentrate on the areas likely to be encountered first by new users – the pupil records and reporting sections – and give just a brief outline of the others.

Also bear in mind that PIMS is still developing at a rate of knots. By the time you read this, extra features will have been implemented and others refined.

The structure

PIMS is supplied as a *complete solution* – that is, as a package including hardware, software, initial training, hotline support and maintenance.

Two hardware configurations are available, based around either an A4000 or a Risc PC and both with a printer.

The software currently comprises six modular areas within the main application. These are: *accounts, budgeting, property, reporting, staff* and *pupils*.

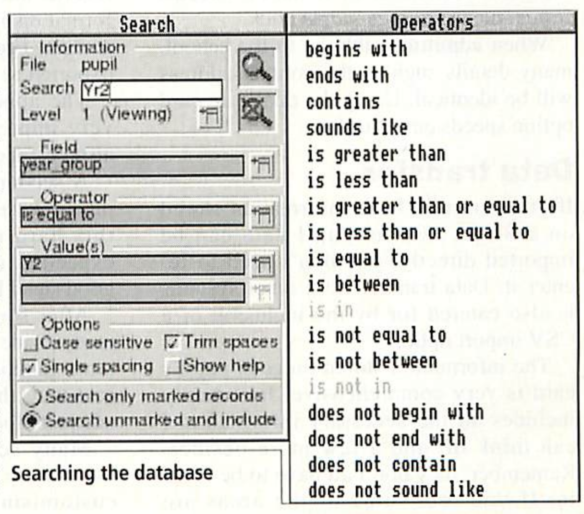
There is no compulsion to use all of these; you could choose to use PIMS to manage pupil and staff records alone.

PIMS is supplied ready-installed on the machine and is loaded in the usual manner. After loading onto the icon bar, a window appears requesting your user code and password. Security is a key feature since some of the information held will be of a sensitive nature.

Individual users can be given different levels of access within the system – a headteacher will require access to all areas, a teacher may only be given access to pupil information, not staff or financial areas.

It is a simple matter to allocate every user with their own password and consequently their own access rights.

Incidentally, all files created using PIMS are encoded, so deciphering information without a password is virtually impossible.



Searching the database

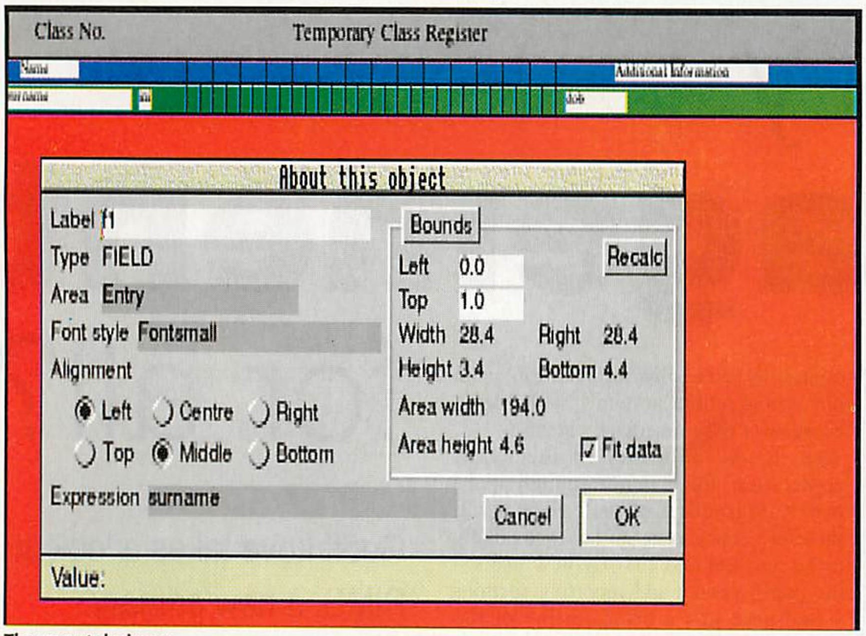
Once your password is correctly entered, you can choose which of the six areas you wish to access.

Entering the *pupils* section of PIMS initially displays the card belonging to the first pupil, or a blank card if pupils have not yet been entered.

Entering data

Pupil information can be entered in two ways. You may select the new card button and then simply type into the blank card. Alternatively, you may choose to use the admissions system.

This is of great use at the beginning of a school year. It allows pupil's details to be held dormant on the system. Future class lists and so on can be printed and records manipulated without affecting the current data. When the admission date is reached, a couple of clicks with the mouse and, hey presto, the new entrants are



The report designer

reached, a couple of clicks with the mouse and, hey presto, the new entrants are merged with the rest of the pupil records.

There are four different ways to view the information, selectable by buttons at the top. These allow the user to view a single pupil's card with nearly all information on display, or view a list of several pupils, with the selected pupil's details being sub-sectioned into different categories. The choice you make will be governed by a mixture of personal taste and suitability to the task at hand.

Speed of data entry can be a concern, particularly at the start of the year in a larger school. Thus, great attention has been given to making this as painless as possible.

All fields involving commonly used information, class name, teacher, doctors and so on, have been given editable menu options.

This means that a little time spent at the start entering details of all commonly used data entries will reap benefits in time saved later – instead of repeatedly typing the same doctor's name it can be selected from a menu list by a single click.

When admitting siblings to the school, many details such as the contact address will be identical. Using the duplicate card option speeds entry further.

Data transfer

If you currently have information stored on a SIMS system, pupil data can be imported directly: you don't need to re-enter it. Data transfer from other systems is also catered for by the inclusion of a CSV import option.

The information stored on each pupil's card is very comprehensive. It certainly includes all the necessary information I can think of, and a few more besides. Remember, they don't all have to be filled in. If you feel some of the areas are irrelevant to your school, leave them blank. In the unlikely event of finding something missing, there are four user fields at the bottom of the card for text, date, number and money entries which can be used in any way you wish.

Okay, so you've got all this lovely information. What can you do with it?

Records can be ordered in a number of different ways, by class then surname, by admission number, date of birth and so on, and powerful yet easy-to-use search facilities exist. Once created, common search criteria can be saved. These can be accessed from a menu at a later date.

Reporting back

The reporting features of PIMS are not, as I first expected, connected with pupil end-of-year reports. They do in fact refer to the output of information.

A variety of ready-made report formats which cover most common requirements are supplied within PIMS: printing of class lists, address labels, financial accounts and so on. Once a selection of records has been made, choosing a report format displays the chosen information on screen. From here it can be printed or exported as a text or *Draw* file.

The appearance of printed reports is very impressive. Incidentally, data can also be exported in CSV format.

A section exists for the user to design their own report forms. Initially I found this hard to get to grips with; I was expecting my DTP skills to hold me in good stead here, but they didn't.

After some time studying and editing ready-made reports, it did start to become more familiar but it took a while. Having said that, the report formats provided are adequate for most needs.

Many schools will be content with using those in their current form or maybe customising them with a school logo. They may never feel the need to aspire to full-blown report designing. More report formats may become available in the future.

And there's more...

Other areas of the software operate with the same ease of the pupil records. The staffing records section follows a similar format to the pupil records.

Accounting areas allow you to budget, track expenditure and requisition equipment and services. A double-entry system is used although – and this is a big bonus – it is transparent to the user.

The result is that once set up, the accounts can be used by someone with no detailed accountancy knowledge. At the same time though, a full audit trail is available for viewing by the school's accountant/auditor.

A marked advantage of PIMS is that it always provides an up-to-date record of spending. With many authority systems, schools receive accounts one month in arrears – you can spend an awful lot of money in a month before you realise there's none there.

I had only two niggles with PIMS. One was the complexity of the report designer, though I don't think this would be a real drawback for many.

The other irritation was obtaining a menu when working with record cards. Different areas of the card produce different menus and I kept forgetting, meaning several clicks of the menu button were needed to get the main menu.

Conclusion

PIMS is a very powerful, accessible and professional package with much to offer the primary school. If you are not happy with your current admin system then PIMS should be high on the list of alternatives to consider. Run on a Risc PC you have the best of both worlds.

A PIMS evaluation pack is available for £20, deductible against a future purchase. This contains a 'working model' of the software, so you can try before you buy. As the saying goes, *it could be the best £20 you ever spent.*

One final note. The reaction of local authorities to PIMS is predictably mixed, primarily for political reasons. You need to check how your school stands if you are considering running PIMS as opposed to a system supplied by your local authority.

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The case for **portables**

Alice Smith takes a look at three examples of the success of portables in schools, and Ian Burley examines Acorn's latest portable, the Pocket Book II

More than a hundred schools, plus a number of teacher training establishments, took part in the National Council for Educational Technology's major research project into the potential uses of portable computers.

NCET – (0203) 416004 – is publishing an evaluation of the DfE-funded scheme, but the case studies which follow give a preview of some of the exciting and innovative ways in which this type of technology can be used in education.

1: The outdoor life

Pond dipping will never be the same again at Hengistbury Head Field Studies Centre in Dorset, because as well as nets and jam jars, parties of pupils on day trips to the centre now take portable computers out into the field with them.

The centre's work aims to encourage and develop IT skills, particularly datahandling, and is based on Acorn A4s and Amstrad NB100s.

Pupils collect data about, for example, pond life, bird activity or moths, and log it on the Amstrads, although they could equally well use Pocket Books. Back at the centre this information is downloaded to the A4s and added to a larger environmental database which can be accessed by future visitors.

Students are also encouraged to input their data into spreadsheets and ask 'what if?' questions, relating the presence and numbers of organisms to physical parameters. This work can then be extended to predict trends over time and comparisons can eventually be made between the predictions and real events.

However, an important aspect of the project is that pupils also take their data back to school on disc where they continue working with it. In this respect, Colin Geatrell, the science advisory teacher who heads up the team, says it is vital that schools' software is compatible with that at the centre. Luckily, Dorset is a predominantly Acorn authority so this is the case for most local institutions.

2: More than a phase

'If I'd suggested spending a couple of grand on portables before, the senior management team wouldn't have been convinced,' says Bernard Farnell, IT co-ordinator at Wycliffe Community College in Leicester. However, staff at the school have seen the benefits of portables for themselves because Wycliffe, along with local junior schools Crescent and Caldicote, participated in the scheme.

Working together has been particularly beneficial for all three schools because the teachers have been able to share ideas and provide mutual support. So far, staff feel frequent use of the portables has meant pupils are highly motivated to produce work of a high standard. They are far more prepared to revise and redraft and sustain interest in a given task for far longer. Bernard also feels that access to a spelling checker can make a significant difference to students' written work, because it gives instant feedback.

Given the option, most pupils prefer to use the computers rather than a pen and paper. 'It's their attitude to writing which has changed; they are much more willing to write,' says John Clark-Lewis, Crescent's IT co-ordinator.

Between them the three schools have 48 Acorn Pocket Books and 12 Tandy WP3s, and the majority of students have also proved themselves to be very responsible when handling the equipment. Many teachers have commented, 'It brings out the best in them.'

The machines have become a focus for discussion about the curriculum and how to deliver it across the phases. Bernard

Pocket Book II

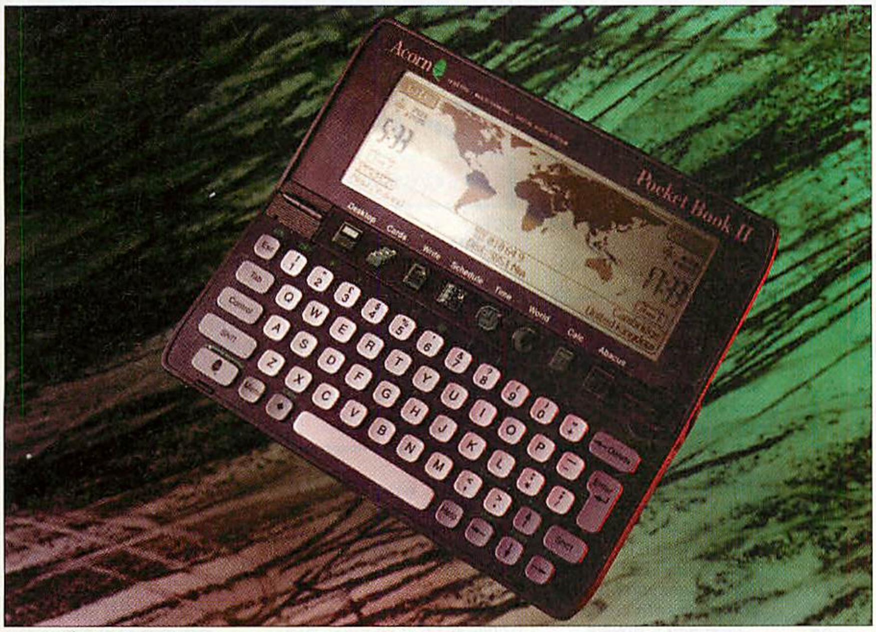
About a year after Psion launched its Series 3 pocket computer, Acorn made the very smart move of collaborating with Psion to produce a badged version aimed specifically at the education market: the Acorn Pocket Book. Almost two years later and just over a year since Psion updated the Series 3 with the superb Series 3a, Acorn has followed with the Pocket Book II.

The original Pocket Book was largely hailed as an important step forward for computing in the school environment, but Acorn enthusiasts outside education were slightly dismayed that the original Series 3 from Psion was a better choice for general use. The good news is that Pocket Book II now has just about everything its Series 3a sibling has and more.

A lack of Rom space in the Mark 1 Pocket Book meant that a number of useful Series 3 applications had to be jettisoned in favour of the *Abacus* spreadsheet. At the time, I argued that this was silly as I couldn't see who would want to use a spreadsheet in a pocket computer, so I went and bought a Psion instead. Meanwhile, schools started to take to the Pocket Book and Acorn produced a plug-in diary called *Agenda*. Around 10,000 Pocket Books have been shifted in the last two years, a remarkable feat for Acorn in tackling a brand new and very cash-conscious market.

A year ago Psion brought out its Psion Series 3a, which was so impressive I upgraded immediately. The good news is that Pocket Book II is every bit as impressive. Like the 3a, Pocket Book II has doubled memory sizes at 256K or 512K, a faster 8086-compatible processor, a physically larger LCD screen with four times the number of pixels and a grey shade.

Psion's excellent enhanced *Agenda* has been retained and re-named *Schedule* by Acorn, though it bears little resemblance at all to the original *Schedule* application. *Abacus* is still there, and after a year of owning a 3a I take back all my words about spreadsheets being useless in palmtops – I use mine all the time. The world map/time application makes a welcome return too, as does the OPL program editor. The simple cards database is much as before, though it's slightly easier to navigate. Better search and sorting tools would have been welcomed. Compatibility with the serial port A-Link and *PocketFS* serial port software to connect a Pocket Book to your Archimedes/Risc PC is retained. Pocket Book II runs many old Series 3 and Pocket Book



Acorn's new Pocket Book II

says, 'When you've got portables you can give children a choice. Portables give more flexibility so students have more options – it's about personal ownership.'

Like the staff at Wycliffe, at Crescent Junior they would like to invest in more portables. John says that the project has 'opened our eyes and we're certainly questioning what equipment we buy next.' However, given that the machines are still comparatively expensive for primaries, he suggest that schools could buy as clusters to obtain bulk discounts.

3: Access all areas

'It's all about attitude,' says Paul Lord, who is co-ordinating his school's participation in the NCET portables in education research project, but since Sharples Secondary in Bolton took delivery of 35 Acorn Pocket Books, attitudes towards information technology have definitely changed for the better.

Lord is convinced that portability is the key factor in this change of outlook. The palmtop machines are accessible because they can be carried from classroom to classroom and can even be taken home.

They are also easy to use and, Lord adds, 'Pupils and staff have seen a piece of IT that works for them, first time.'

The Sharples work focused on portable computer usage in three curriculum areas – English, Maths and Science – with Key Stage 3 pupils in year 9.

The English department has used the Pocket Books' *Write* word processor for various forms of writing, including narratives, poems, letters, instructions and lists, and the spelling check program has also proved particularly valuable.

Head of English Martin Gething gives his students the option of using it in class instead of a paper-based dictionary and has found that the technology has made pupils much more keen to look up words they don't know.

The maths classes involved had used spreadsheets before and, after a little revision, had no trouble adapting to the portable's *Abacus* program.

Head of maths, Arnold Dawson, produced a series of worksheets on investigating number patterns and found that pupils could work their way through them without any difficulty or extra help.

The Pocket Books' graphical features have been well utilised in science lessons and *Abacus* has, again, been very useful as pupils are able to check the accuracy of their data immediately – experimental errors normally come to light when final reports are written.

Although a few users have found the size of the machines a drawback, most have no complaints and a number of staff have commented that small screens seem to focus pupils' attention, particularly in lower ability groups.

In an IT room, resources such as printers can be shared easily, but even though Sharples has 35 Pocket Books, it could only afford to buy two portable printers and this hasn't proved to be sufficient.

More portables does create a demand for more peripherals, which has cost implications, of course, but Lord firmly believes that portables are the way to break down the barriers and finally 'get IT out into the classroom'.

Alice Smith

Mark 1 programs without problems.

There are some novel features as well; a sound record facility, for example. It's quite fun to play with, but other than adding customised noises to the alarm facility, it's not that obviously useful. A minute of sound data would overflow a 512K solid state disc (SSD) cartridge. Most applications now exploit the screen's extra resolution by enabling a zoom-in/out function. With text at its smallest, 80 columns in 17 lines is perfectly readable. The serial port now has a doubled throughput of 19.2K bits per second and can be used with Psion's new Series 3a fax modem, unlike older and slower Pocket Books and Series 3s.

Telephone tone dialling, originally removed in the old Pocket Book, is now possible once again but on our evaluation prototype of the Pocket Book II the telephone symbol above the 'Help' key was missing. A very good graphical battery condition and usage indicator application is included. Despite the bigger screen and faster processor, battery life remains seemingly unimpaired and I predict many will get 2-3 months' daily use from their Pocket Book II's pair of AA alkalines.

Nothing of substance is missing from the 3a in the Pocket Book II, but 3a owners like myself are going to be green with envy because the Pocket Book II includes a full dictionary and thesaurus plus the Acorn *Plotter* mathematical charting application on a pair of SSDs. What's even more amazing is how aggressively Acorn has priced the Pocket Book II. A discounted 512K Series 3a costs around £270 + VAT. For an extra tenner the 512K Pocket Book II gives you a Series 3a plus *Plotter* and the dictionary/thesaurus, the latter being worth £40 on its own. The £50 extra spent on the 512K model is definitely worth it.

Acorn's line is that it is concentrating the Pocket Book II marketing on the education market. Pocket Book II answers all the major criticisms of its predecessor and goes far beyond. Schools should love it, but so will other Acorn customers and everyone else.

Ian Burley

Product details

Pocket Book (Mark I) 256K, £169.95 + VAT
Pocket Book II 256K, £229.74 + VAT
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Acorn World preview

Two months and counting... what will be at the show?

Things are shaping up for the Acorn World show on 28 to 30 October. A number of offers and competitions are being finalised, including a giant show-wide jigsaw puzzle for primary school children to win a Pocket Book, and a chance to buy an A3010 and other Acorn equipment, at very special show prices.

Straight to the theatre

There will be a packed theatre programme every day, starting off with Acorn's Peter Bondar 'Introducing the Risc PC' at 11am. Other talks running at some point every day include: a presentation on the exciting new area of the 'Information Superhighway' where Acorn technology is proving itself to be so effective; Alex Van Someren of Aleph One explaining how to get 'The Best of Both Worlds' with a PC card; and Stuart Watson of Chameleon Design revealing how a graphic artist can use the latest 24-bit bitmap packages.

The Acorn Pocket Book has transformed the way IT is taught in many schools, providing a link between the home and school use of computers.

The release of the Pocket Book II opens up many exciting possibilities.

Geoff Lambrechts of Lord Grey School will discuss this and more in his talk 'Technology on the move – the Pocket Book in education.'

Not to be missed is the talk at 1.20pm on the Saturday by Roger Broadie, Education Marketing manager of Acorn Computers and *Acorn User* writer. He will be talking about 'New Literacy', a subject which should be on the lips of anyone concerned about the future of education into the 21st century.

Arm Ltd is giving talks on the Friday and Sunday for the technically minded, which should give a fascinating insight into the power behind the computers on our desk and – increasingly – the power behind many other pieces of equipment.

Also on the Sunday, at 3.05pm, the *Acorn User* editorial team will explain how the magazine is put together every month, condensing the work of four weeks into twenty minutes. Can we get the magazine to the news stands before 3.30pm?

Laser labyrinth

For children who like their shoot-'em-ups more real than virtual, the laser labyrinth will allow them the chance to chase around a network of tunnels, battling it out with laser guns.

Pulse rates will be monitored after the battle and participants will be able to take a copy home on disc.

Less physical, but no less challenging, will be the themed games arcade, sponsored by *Acorn User's* publishers, Europress Publications.

Here they will be able to pit their wits and hand-eye coordination against all the latest games, and some old favourites.

Many software companies will have new releases at the show – this is a chance to check that your money will be well spent.

Look out next month for our eight-page guide to the show, after which the question will not be 'what will be at the show?' but 'will you be there to see it?'

The Acorn World 1994 show
Wembley Exhibition Centre
28, 29, 30 October 1994
Advance tickets: Adults £5, Children £4, Family £16
Tel: (0933) 441448



The Acorn Stand

This year, Acorn has no less than three new developments to talk about at the show: Online Media, the Pocket Book II and the PC coprocessor for the Risc PC.

The Online Media presentation, previewed last month, promises to showcase Acorn innovation, demonstrating its technological advantage on the brink of the new era in home entertainment. The Pocket Book II will provide the link between the classroom and study at home on another part of the Acorn stand, where parents and teachers alike can find out more about the developments occurring in IT at this moment.

The PC co-processor will be just one of the topics which you will be able to discuss at the technical clinic, which Acorn cheekily refers to as 'an opportunity to get answers to questions that you never seem to see in magazines.'

All this is in addition to the workbench demonstration of highly-configured Risc PCs mentioned last month. It's a great opportunity to learn about the latest Acorn products and to get an insight into the future – as close to Acorn's R & D as you can get.

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GAME SHOW

First an apology. I did promise to give a few games hacking devices the once over this month, but unfortunately my entire living room was flooded by 60000 gallons of water over the weekend and this has put paid to any extended night audiences with my machine.

Therefore I have retreated to the back room and consoled myself with some good old honest games to play into oblivion.

The hacking devices will, I promise, be covered next month and hopefully by then will all be working properly, as one which shall remain nameless appears riddled with bugs.

The author has written to me with the modifications, so I guess all is ready for the big test.

These devices are essential to the average games reviewer as it allows the whole game to be explored in a reasonable time period.

Many people I know tend to look down their noses at these devices, but they do have another use and that is to make the game harder.



Ever considered what your favourite game would be like at twice the speed, or with only half the weapons or time periods to complete it with? Well watch this space next month and all will be revealed!

Apart from the minor aquatic experience, nothing much appears to be moving in the games front at the moment.

The many promised releases are yet to see the light of day, and it looks like the developers are holding off until the next major show in the Autumn.

This will be the big wind up to Christmas, so let's hope the time schedules will be met and the likes of *Simon the Sorcerer* and even *Dune II* will finally get the publicity they richly deserve.

I am exceptionally pleased to see *Cannon Fodder* in this issue, as this game has managed to meet its deadline and looks to give Archimedes games a serious boost of interest.

Full marks too to Oregan for pressing ahead with some releases which, although only previewed in the following pages, seem to indicate that this company has some serious gaming intentions. A full review of each will soon follow.

The *Flashback* solution featured last month seemed to have caused quite a stir, with the entire level featured in the magazine yet only a portion being provided on the demo disk!

What can I say? It would appear a misunderstanding lead me to believe that the entire jungle scenario would be made available, and since I was working from a full copy of the game I never thought otherwise.

I apologise to those of you furtively exploring what little area you had, trying to comply with my instructions.

Now go out and buy the full version, then try the guide again!

It's a hard life being a games editor and if you don't believe me then why not try it for yourself? I'm looking for recruits to do the odd review.

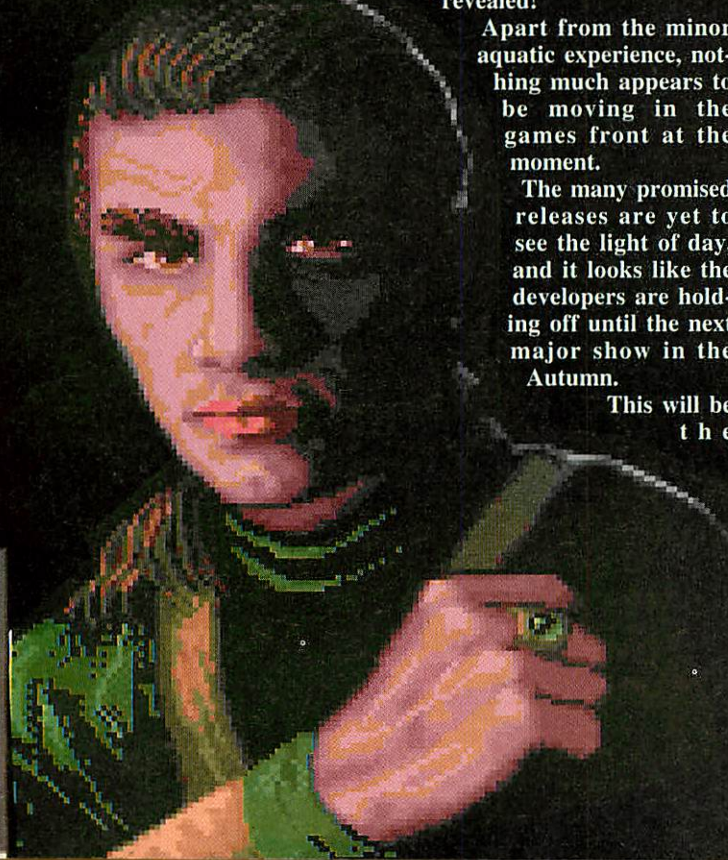
You will receive *free* software and have to face the indignity of writing 600 words about it on your best word processor.

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If it's good enough then we will contact you and start the ball rolling.

Write to: Games Reviewer of the Year, c/o Acorn User, Europa House, Adlington Park, Macclesfield SK10 4NP.

Steve Atherton




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BURN OUT

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Tel: 021-353 6044
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'A game like no other' claims the media hype and instantly I'm suspicious. How can a car racing game be like no other? You ride a dune-buggy against five other competitors on a roller coaster of a track attempting to come third, second or first to move on to the next race.

Sound familiar? Thought so. Now, the moment you clamp eyes on the game, the words Power Drift swiftly come to mind as this game looks like a carbon copy.

Not that this is a bad thing as this was, and in fact still is, my favourite racing game. Nice one lads! The screen shots I saw looked well detailed and if it runs as fast as it looks it will get top awards in my books.

Their are 20 drivers to choose from and ten different dune-buggys to ride. Racing takes place on an island with beaches, deserts, canyons and towns, so what more can you ask?

A serial link much like the *Stunt Racer* set-up will allow two players to race head to head, and this could well be the decider as this type of games cries out for this attention.

There are no passwords as the game uses credits to keep your interests alive – much like an arcade machine game. Hidden cheats include level skips, bonuses and a much needed test mode for the likes of myself.

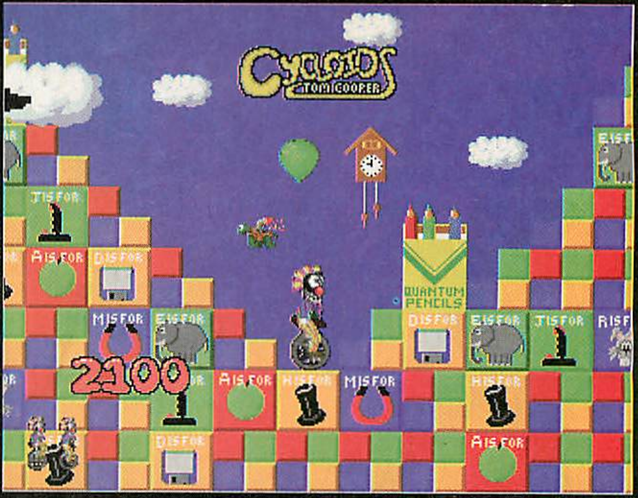
This I just can't wait to see. The release date is 1 October but I should get a copy before then, I hope!

Also from Oregan, and coming to a screen near you in October, is a rather interesting title called *Sally and Wally*. I thought they were penguins but further reading told me they are in fact lovebirds. This leads not surprisingly to a further revelation that the game is a platform romp.

They've just been on their honeymoon you see, (the lovebirds that is) and had a great time. On returning home – shock, horror – disaster has struck and the beautiful tree house has been infested with bugs, nasties and creepy crawlies.

To the average bird this would be a lifetime supply of food for the little ones, but to our rather warped Sally and Wally it is a good excuse to set out on a mission and wade through six areas and 100 levels of bug-related mayhem.

Bonus warp zones and a two-player option mean this could be bit of laugh. We shall see.



THE S42 COLLECTION

Supplier: S42 Developments
Tel: (0243) 531194
Price: £29.99 + VAT

Pronounced 'Ess-forty-two', this signals a compilation pack containing *FRED, Ixion*, a new beat-'em-up called *Raw Power 2* and *Cycloids*.

These have all, except *Raw Power*, been released before and received good reviews. The collection is great value with four full-price games for the price of one.

Destined also for a September release is *Atomix* which is based on a popular formula seen on the PC, Mac and Amiga. Arrange the atoms in the correct order to achieve stable molecules.

This game is against the clock with bonuses and great effects, and it certainly looks a *Tetris* contender!

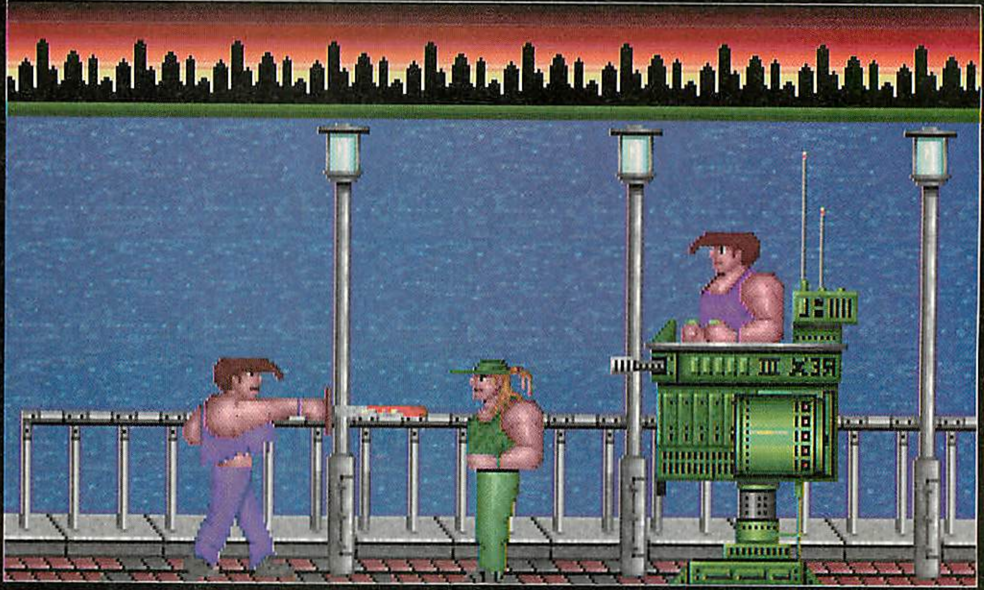
DreamZone, I am assured is *the big one*. A Christmas release date sees the ultimate platform adventure on your machine. There seems to be a lot of claims going on this month, though none I might add compare with my insurance form.

Fast action, cutsie figures and just about every extra you could imagine certainly make this a contender, but only extensive reviewing will tell.

The company are also not afraid of hinting that they may convert to other formats – possibly Amiga?

A claim like that means they must value *DreamZone* considerably!

Steve Atherton



CANNON FODDER



Supplier: Krisalis Software
Tel: (0709) 372290
Price: TBA

Cannon Fodder is another celebrity of a game to hit the Archimedes gaming scene.

Perhaps most famous for it's popularity on the Amiga format, the game has countless followers and just the odd article or two in many a magazine dedicated to strategy and fair play.

You see it's one of *those* games. The type you are hard pushed to walk away from and are even prepared to go without solids for.

Addiction and perhaps a slight comical edge are always a great ingredient to any war-related game, our fascination for becoming the ultimate killing machine hard to resist.

It's a bit like Rambo meets *Sensible Soccer*, with little men scurrying around killing all in their path.

The reason *Sensible Soccer* springs to mind is the simple fact that the award winning team that brought you *Sensible Soccer* are responsible for this offering.

You would be hard pushed not to know it too, with pictures of the entire team spending their royalties standing behind jeeps and machine guns adorning the intro sequence.

All the while a neat little vocal track gets you in the mood. Well for a short while anyway – the soundtrack editor then gets carried away with a 'remix' of sorts which involves stuttering and constantly repeating the lead vocal hook.

This, I am afraid, is my only gripe. I tried to find others but I couldn't. I played it more or less to the end too. Oh well.

After the Intro, a quick message appears telling you that this game has no connection with the British Legion. This, I must presume, is due to the fact that poppies are used in the Hall of Heroes, where your greatest are remembered after falling in battle.

After the anti-endorsement comes the introduction to the squad that you will command.

This is quite humorous and instant *Sensible Soccer* thoughts spring to mind.

Hardly looking mean and all-conquering, the little green men scuttle over the hill and wave cheerily in your direction. It seems a shame to kill them all off when they might be more at home in Santa's Workshop. Still, duty calls and you are quickly in the thick of it with a familiarisation exercise.

This involves commanding a small team around some jungle and killing everything on sight.

There are 360 eager conscripts to choose from and up to 15 can be volunteered for each mission.

The troops are not directly controlled by you – more the mouse has an influence on their behaviour.

By selecting a variety of options, the team can handle themselves in spectacular fashion and conquering a stage will depend very much on timing, quick reactions and, of course, a small amount of luck.

At first the team consists of lowly privates with little or no combat experience.

Completion of a level or phase means promotion and training, resulting in a crack force or forces, each dedicated to a task or environment, ready to jump into action.

There are 24 missions to complete, each having different terrain and objectives.

The missions can be split into phases and as I mentioned earlier, it is very





important to fit the right squad to the job.

Objectives start with mere killing right through to driving jeeps, piloting choppers and blowing things up.

Should this prove a little gruesome, then rest assured your team can also be the nice guys by rescuing hostages and pro tecting civilians.

The terrain you will encounter ranges from arctic wastelands to moorlands and even an underground base to run wild in. Yipee! Don't be put off by the miniature size of the graphics – they are more than adequate and the detail is great, with lots going on wherever you look.

I saw tortured POW's, floating (dead) comrades and even the odd GI slumped over his kit. Great stuff!

The weapons that a team can carry are varied but must be obtained throughout your experiences. To make things a bit easier you do get the humble machine gun to cut down the enemy, but careful covering of the terrain should reveal some choice toys to use.

In blowing up buildings their is nothing quite like a good solid grenade. An ammo crate once walked over can reveal these and they could not be simpler to use.

Simply hold down your fire button then click the left mouse button. The resulting explosion must be studied carefully as any flaming debris can wipe out a team member.

Bazookas are only available when further into the game and require skill to operate.

The distance the weapon can effectively reach makes devastation second nature.

Of course, the squad is much more than just a foot-based unit. Indeed, if any vehicles can be found then each has the ability to pilot or drive the craft.

Simply tell the characters to board and on they get – weapons or any on-board facilities are instantly yours.

After use, simply land or stop to cover the new terrain by foot. As the team gets more experienced you will find the decisions and accuracy become greatly enhanced.

As you would expect, this really is another classic that you must all buy.

The attention to detail and the way the whole package has been put together is indeed an example to all aspiring game programmers.

You cannot put this game down and should you try then you have much greater will power than me. I sat for hours in front of this, so much so that I got a fair way into the game.

I didn't get bored – in fact I found myself playing earlier levels again to try out combat techniques and to just enjoy the whole experience.

There are not many games I can say that about and all the ones I have you should have bought by now.

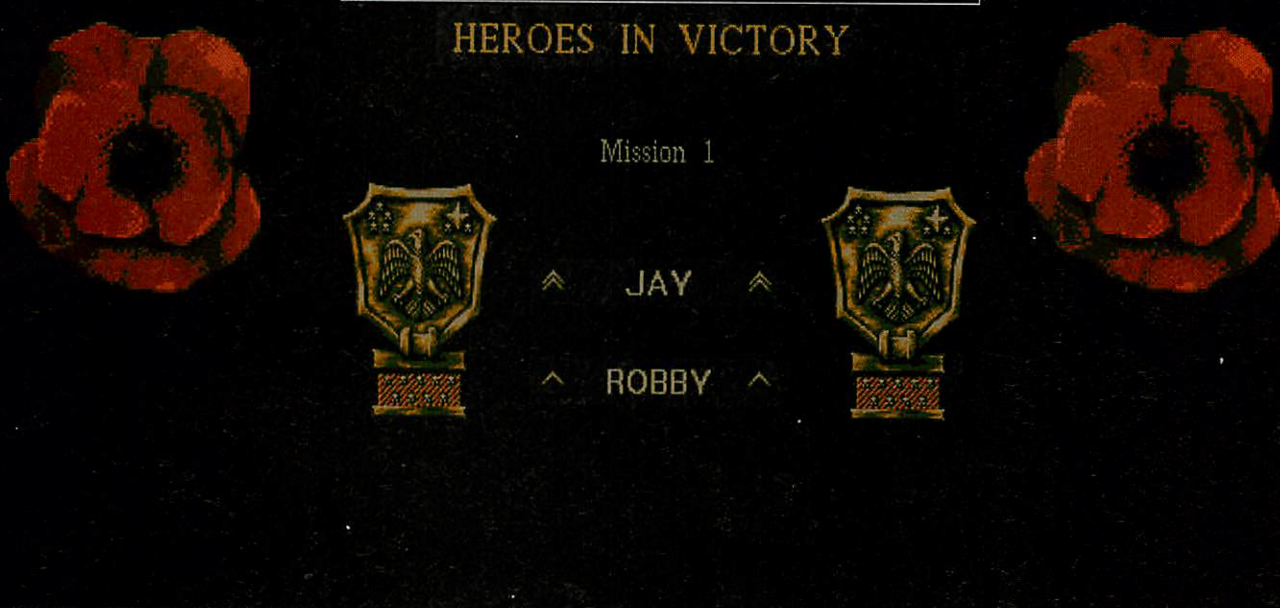
There are no real drawbacks to this game, other than the missions may become frustrating should you not conquer them after a short while.

Why? Well if like me you read the manual from cover to cover, you just can't wait to get to the underground base or try out a helicopter!

Steve Atherton







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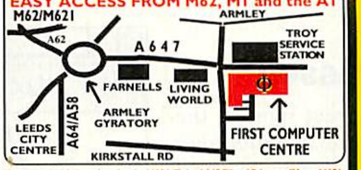
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XPress? Unimpressed

I read with great interest the review of *Impression Publisher* in June's issue, having received my *Impression II* to *Publisher* upgrade a little while before. It was interesting to 'review' something 'retrospectively'.

I musy say I was disappointed by the constant comparisons to *QuarkXPress*: market leading DTP package it is, but there are also *Ventura Publisher* and *PageMaker* which should also be involved.

Quark is a good, though not perfect program and *Impression* has always performed well against it. I draw you and your reviewers to three items:

1. It *is* possible to have text in an irregular frame. Just create the text in *Draw* or *ArtWorks* and drop it in.

It must be remembered that it can easily be edited using the OLE facility. Not as easy as dropping in a graphic, but very manageable.

2. In the Utilities menu there is an item called 'Compile font usage list'. For professional output this is vital for an image-setting/print bureau.

They need to know what fonts are in the document – some Mac bureaux charge if a font usage list is not submitted.

Using this superb feature in *Publisher* will ensure that users have no excuse and will not be charged additional fees.

3. Finally, a long-standing gripe of mine. If you reload an Impression document and have not made the required fonts available, you get the error message 'Some fonts have not been found (including XXXX) so they have been substituted' with an icon marked OK to click on.

I would prefer an option to quit and load the appropriate font(s). Next upgrade, perhaps?

Overall my congratulations go to the development team at Computer Concepts.

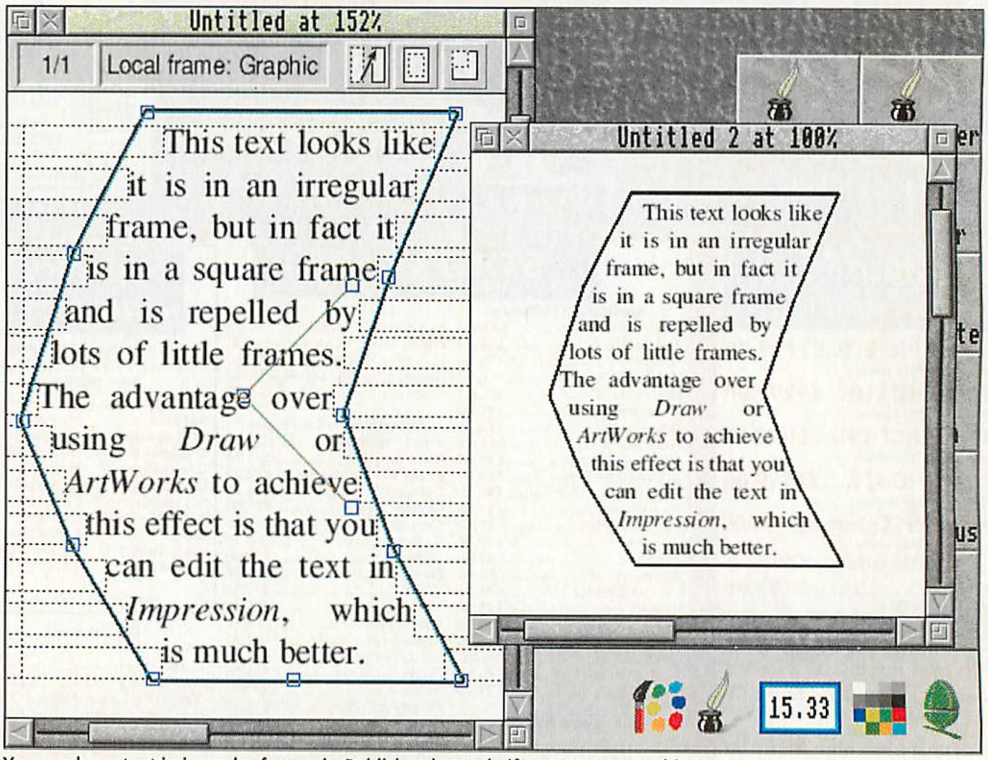
Publisher may have some features missing compared to *Quark*, but at £169 it is considerably cheaper.

What is more, I recently spent some time with TJ Reproductions, who did some of the beta testing, and *Publisher* is virtually bug-free.

This is better than when *Quark 3.2* and *PageMaker 5* were released – they were so bugged they were almost useless!

The new standard for Acorn software has been set: let's see more .

Keith Parker
Middlesex



You *can* have text in irregular frames in *Publisher*, but only if you are a masochist

Valid points all, except the one about being able to put text in an irregular frame via *Draw*.

The masochists among us may enjoy it, but personally I'd rather do it by creating the text in an Impression frame and constraining it by using lots of transparent frames, in the same way that cutouts were done in previous versions. It's still a right royal pain.

Public comms

I am writing this to ask your readers for any Comms programs they could donate to me.

The reason is that I would like to start a PD Library for Communications only, to consist mainly of the better known system of BBSs via the telephone links, and also BBSs and other means via the radio, i.e. RTTY, Amtor, CW, Packet and other modes of contacting people all over the world.

There seems to be a lack of Comms software for Acorn machines – PD or otherwise – at an affordable price for ordinary people in the Mansfield area.

So I thought it would be a good idea to start a PD Library for people from Mansfield and the local vicinities – it would benefit lots of people in this area.

Instead of searching the whole country's PD Houses, they would then only have to send off to one to be sure of some software.

Please help. Postage and copy charges I will gladly refund for all and anything I have not already got. Anything else *will* be returned.

My address is 3 Ravensdale Avenue, Mansfield, Notts NG18 2DU.

Harry Hall
Mansfield

Although I'm not altogether sure how a PD Library can 'consist... of BBSs via the telephone links', I've put this letter in as it stands in the hope that something good comes of it.

After all, it seems a little unfair to deny the good citizens of Mansfield access to a Comms PD Library...

The real world

I read with some reservation the editor's Viewpoint on Acorns in business in the August Letters page.

I, as a programmer in 'the real world of computing', as my boss would call it, find the opinions and conclusions drawn in the article to be rather outdated.

As long as you can do with a computer that doesn't need to 'talk' with other computers, Acorns are fine.

More and more, both customers and suppliers of the company I work for are sending information to us in so-called 'industry standard' formats.

The problem with this is that the PC market changes its formats so frequently that we often cannot read or process the information provided, because it is from a newer version of *Lotus 1-2-3*, or from a package we don't have.

This has led to a lot of confusion in the past as to what we should do with the information.

If we are asked to add details to the spreadsheet before returning it, then the sender would like it back in the same format, but if it needs adding to our mainframe's database then it needs converting.

It would seem that it is only larger companies with well-established computer departments that send computerised information in 'pretty basic formats.'

Most smaller operations or

companies new to computers send information in the same way that they save and use it normally, oblivious to the problems it causes at the other end. And if we were to refuse to accept order enquiries in this way, there are other companies who wouldn't.

I am not trying to promote business users to buy Intel PC hardware with Microsoft Windows software. Far from it, as in my experience this combination leads to an unstable and complex disaster area.

However, PCs may be rubbish but they're here to stay. The badly informed opinions of the people with the purse strings will see to that, at least for the next few years, even in companies currently without PC systems. To gain the confidence of these people, I believe Acorn needs to advertise hard (in PC magazines) their computer's ability to integrate into other people's technology.

And for this, Acorn first has to concentrate on making its computers work with PCs, both in terms of networking and file exchange.

I think – although I've never tried it – that Acorns would sit well on a mixed network, but it is with file interchanging that they fall flat on their faces.

The ability to run PC software is not enough: there would be no reason to buy Acorns if they were just expensive PC clones.

Acorn needs to come up with a way that enables software houses to keep up to date with all the latest versions of major PC file types, as well as major Acorn file types.

This should allow the software writers to concentrate on producing good software, rather than spending lots of time and money bending software to fit new standards or, like most do at the moment, ignore what the rest of the computer industry is doing.

If Acorn finds a way of making this easier, its computers could become more PC-compatible than the PCs themselves!

Barry Alcock
Berkshire

Although our last issue showed there are a number of small businesses using Acorns successfully, the business market is not one of Acorn's targeted areas. Despite products like *Eureka*, *Prophet* and *ProjectING*, the business area is incidental to markets such as DTP and education.

This is why Acorn isn't advertising in the PC press, and why there is no such package as *PC Exchange* for Risc OS. Acorn fans will no doubt be disappointed at this stance, but it's a chicken and egg situation.

Without the ability for Acorn machines to read and write PC file formats, PCs will maintain their existing dominance, and without a large market, software houses will no longer program any file compatibility with PC packages.

Next month we have a Business column starting, which will look at how Acorns are used in businesses and suggest ways in which they might be. It'll be interesting to see how successful it will be.

Beeb posterity

As a result of a couple of casual conversations recently, I have been given quite a lot of redundant BBC B equipment, purely on the promise of giving it a good home.

I'm fond of my old Beeb and obviously other people are of theirs, but with the advent of the Archimedes they have comparatively little re-sale value, so tend to be put into the back of a cupboard, pick up a load of dust and, no doubt, eventually succumb to a spring-clean turf-out.

It occurred to me that this is the ideal time to get together a collection of the Beeb and its peripherals, particularly as spares are still available.

What I have in mind is to assemble in a dedicated museum as much hardware, firmware and software as can be begged, borrowed or stolen, incorporating both archive and user areas.

It happens that a museum would fit nicely into the local tourist scene – the Lake District needs wet-day attractions – so I have been encouraged to explore the possibilities of getting together as comprehensive a collection of Beeb equipment as possible, so we can commission a feasibility study preparatory to seeking sponsorship and grants.

It seems to us that the sensible way to approach the project is to sound out the enthusiasts to find out what sort of response there would be to requests for the donation of equipment, and the manufacturers who would like to have copies of their wares in the archive.

A secondary objective would be to store software in a more permanent form than tape and disc, perhaps on CD.

I can be contacted at the following address: Lakes Computer Museum and Visitor Centre, c/o Furness and Cartmel Tourism, PO Box 28, Ulverston, Cumbria LA12 7HN.

J M Hepworth
Cumbria

Drop us a line at Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP

Viewpoint

The release of the first CD-Rom full of Public Domain software on the Archimedes should be a cause for celebration. At last, we can have a disc packed with every imaginable utility and, even if nine tenths of the disc is useless – a reasonable estimate of the PD scene – that still leaves 20Mb to play with. On this basis, The Datafile is to be congratulated for its initiative.

Before you rush out and buy the disc however, a word of warning. There are pictures on the disc that you may consider to be unsuitable for chidren.

Some are fantasy artwork by 'Boris', with dragons, swords and sorcery. Many also include the usual scantily-clad women without which the picture is apparently not 'artistic' enough.

These we might just get away with printing in the magazine. Some of the other pictures we *definitely* wouldn't be able to use without restricting sales of the magazine to the over 18s.

As deputy editor of the magazine, I get enough chance to put my views – which on this topic are also fairly unprintable – across without them being shoved down your throat here.

I will simply express my regret that there was a need to 'fill up' the CD-Rom with pictures of this nature, which will surely make many people think twice before buying it. Who will really spend £30 on a CD-Rom, simply because it contains a few pornographic JPEGs? Far fewer, I suspect, than will be put off by the same pictures.

While there is little that is solely 'educational' on the CD-Rom, there is a lot that could be used by schools. The majority of CD-Rom drives are present in schools, and the education page is triumphantly reporting massive funding for CD-Roms in primary education.

Sadly, I can't see much of it being spent on this disc, unless it is to be kept under tight security by the teacher. After all, you can't delete files from a CD-Rom.

There is so much good Archimedes PD software and related files out there that The Datafile had no need to put these pictures on the disc. I very much doubt that they originated from the Archimedes at all. Were no Archimedes artists prepared to donate their work to this project?

By including these pictures, The Datafile has implied that the free software scene on the Archimedes necessarily includes a proportion of soft porn. That is a damaging misrepresentation of the Archimedes PD scene, and one I will find hard to forgive.

David Matthewman

Communications

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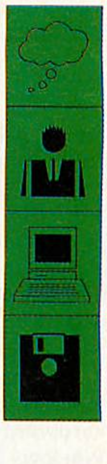
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GINO-F 3D, GINOGRAF, GINOSURF and HERSHEY+ - the FORTRAN subroutine graphics libraries.
Intelligent Interfaces are Bradly Associates distributor for GINO-F 3D, GINOGRAF and GINOSURF for Acorn RISC OS-based computers.

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INTELLIGENT INTERFACES

In brief

ArcFax 1.10 and the Wacom graphics tablet

ArcFax

Supplier: David Pilling
Address: PO Box 22, Thornton Cleveley, Blackpool FY5 1LR
E-mail: david@pilling.demon.co.uk
Price: £35 inc VAT

Over the past couple of years, it has become increasingly popular for modems to include the ability to behave like fax machines. This is, after all, a logical progression. If you are a machine for sending a stream of data down a phone line, you are not going to be fussed about whether you are sending ASCII or a fax bitmap.



ArcFax from David Pilling, which enables the Archimedes to use fax modems, was first reviewed in the December 1992 edition of *Acorn User*.

Since then there have been many improvements, notably support for Class 1 fax modems, Class 8 voice modems and file transfer using ZModem protocols. These alone bring it up to the standard of CC's FaxPack, its only real competitor, and of course FaxPack can't be used as a modem and isn't on sale any more.

Modems to be used with *ArcFax* can be bought from around £100, and many of the more expensive ones include *ArcFax* at a reduced price.

ArcFax runs on all Archimedes computers, from Risc OS 2 machines to Risc PCs. Because when you print a document it is first 'printed' to a file, which is then faxed, a hard disc is recommended.

The process of first printing to a file, then faxing the file, allows faxes to be stored and sent at a later time – for example, during cheap rate – without the original application that created the file having to be loaded in at the same time.



It may seem fiddly, but *ArcFax* makes it relatively painless. It even allows embedded commands in the document which set options like to whom the fax should be sent. With the embedded commands the whole procedure is automated.

The time-consuming part of the operation is the creation of the fax 'file'. I use *ArcFax* with a USR Sportster 14,400 fax modem, and find that the speed of transmission is usually limited by the fax machine at the receiving end.

ArcFax can use 2D coding when storing and transmitting fax files, reducing the space taken up by the fax considerably.

It also comes with an interactive help program *BubbleHlp*, which I recommend to those unhappy with Acorn's *Help* application.

ArcFax is *the* way to send and receive faxes on the Archimedes. It is heartening to see such an excellent program continually being developed, even in the absence of any serious competition, but then good customer support is one of David Pilling's strengths.

Wacom pressure-sensitive graphics tablet

Supplier: Eesox/Vaughan Allanson
Tel: (0638) 578957
Price: £399 + VAT (A5 tablet)
£549 + VAT (A4 tablet)
£799 + VAT (A3 tablet)
£1599 + VAT (A2 tablet)

Right from the first Wimp environment, people have been experimenting with different ways of controlling the pointer, from mice to joysticks.

The development of voice-controlled interfaces produces visions of users sitting in front of their machines, muttering 'left a bit, down a bit, right a bit, *fire!*'

Recently, the Archimedes has seen the development of a number of graphics tablets for use with Risc OS.

Graphics tablets work by detecting the position of a pointer – either a pen-like stylus or a puck – over the tablet, and translating this into a screen position.

One, the A4 TriPad tablet from Klein Computer, was reviewed in the March 1994 edition of *Acorn User*, where it was said to be a useful tool but with a few limitations – such as only one mouse button and some software problems.

No such criticisms apply to the Wacom pressure-sensitive graphics tablets marketed by Eesox/Vaughan Allanson.

The stylus supplied with the tablets has a second button which sits neatly under your thumb and acts as the Menu button.

The tip, which is pressure-sensitive and normally mimics the Select button, can act as either Adjust or Menu in combination with a configurable key on the keyboard. This works well with most programs, although *Impression* has one or two minor problems. The tablet is therefore perfectly usable in the desktop, away from the specialised graphics applications where it excels.

The high price of the Wacom tablet is justified by two factors: the excellent resolution and the pressure sensitivity

With the A5 tablet, I could accurately select individual pixels on screens up to 1024x768 pixels – the larger tablets have higher resolutions still.

The pressure sensitivity relies on software making use of the information. As yet, only *DA's Picture*, *Photodesk* and *Studio24* do, with a tool available for *ArtWorks* from Eesox for £29 + VAT.

Of these, *DA's Picture* offers by far the finest control over tool density, with *Photodesk* and *Studio24* having little between 'on' and 'off' in practice.

Studio24 is the only bitmap package to vary width with pressure, and this works very well.

Another aspect is that the *ArtWorks* tool can also vary line width with pressure, but somehow the results don't look as fluid as they should yet.

Even without the pressure information, the tablet is invaluable when used with the freehand tool, and for precise positioning of control points.

For the serious graphic artist, the A5 or A4 pad is very much an essential tool, providing a degree of control which is simply unavailable using the mouse.

The A3 and very expensive A2 pads will chiefly be of interest to professional CAD users.

Cheaper, non-pressure-sensitive tablets should be coming from Eesox soon, as will the 'cheap and cheerful' Tabby tablet from First Computer Centre for around £70.

The Wacom tablet, however, has already set the standard for the top of the range.

David Matthewman

Module area blues

Owen Smith from SJ Research Ltd describes a solution to the problem of a fragmented module area

SJ Research has been supplying networking equipment to schools for over ten years. In that time we have always tried to get all the little details right, to make users' lives as easy as possible and to allow them to get the most out of their valuable equipment. One of the more recent 'little details' we looked into is of sufficient value that it merits wider distribution, hence this article.

In the June issue of *Acorn User* there was a letter and a viewpoint article from the editor complaining about the same thing: the module area does not garbage collect.

It is true that **OS_Heap** (the set of SWIs that run the module area) does not garbage collect, but this is not really the full story.

At SJ Research we have been investigating fragmentation in the module area, and some months ago we came to the conclusion that the Wimp sprite pool is the main culprit.

The Wimp sprite pool

To understand this it is necessary to understand the Wimp sprite system a little more. Sprites are loaded into the Wimp sprite pool (stored in the module area in one continuous block) by the ***Iconsprites** command.

Initially this is fine, but problems can soon arise. Figures 1 to 3 show how fragmentation is caused, when a module is loaded and how the Wimp sprite pool then needs to be extended.

The sprite pool can easily be 200K or more in size, and the hole left by its moving may be equally large. From this point, any more modules loaded will probably fit into the hole, so the situation stabilises itself for a while.

Ultimately however, a 50K (say) module will not fit in the 30K (say) left in the hole, so the module will go on the end of the module area and the sprite pool will very shortly leapfrog this module, leaving another hole.

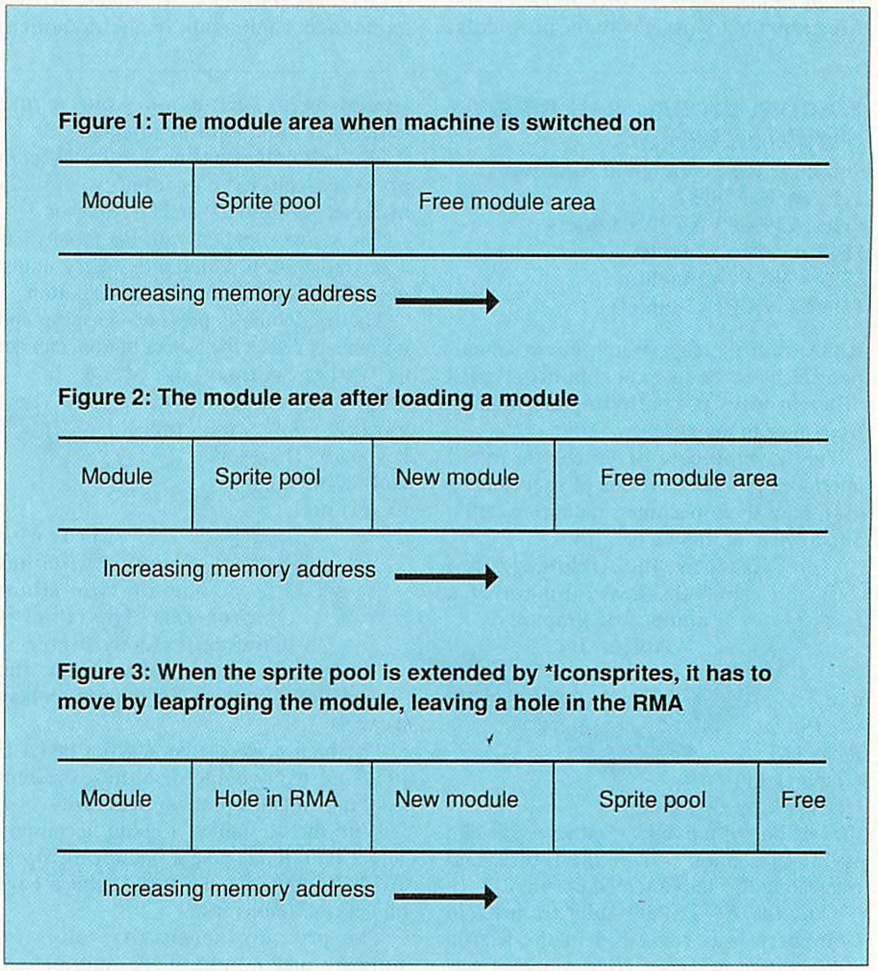
The Task Manager task display shows when this has happened quite nicely. Drag the 'Module area' bar down as far as it will go and then look at the 'Free in Module area' and 'Largest block' bars.

If these are significant in size, like 100K or more, it is likely that this trapped free memory was caused by the Wimp sprite pool.

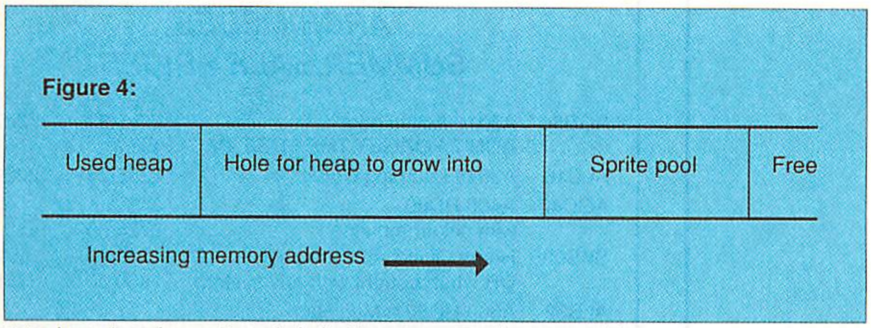
Luckily the Risc PC has the Wimp sprite pool in a private dynamic area, so the module area does not fragment anything like as badly on the Risc PC. But knowing what is wrong and coming up with a workable solution are two entirely different things.

On versions of Risc OS earlier than 3.5 you cannot create new dynamic memory areas, which means that even if you could move the Wimp sprite pool there is nowhere obvious to move it to. Then there is the problem of actually moving the sprite pool, as there does not appear to be any way of doing so at first sight.

After several abortive experiments, we finally came up with a workable solution. To move the Wimp sprite pool we intercept the **OS_Module** SWI. The Wimp uses **OS_Module 13** to extend the sprite pool, so if we know what address to look for (obtainable with SWI



How fragmentation is caused, leading to the extension of the module area



Extend your heap by creating a hole for the extra system heap to work in

Wimp_BaseOfSprites) we can modify the results of the **OS_Module** call and actually put the block somewhere completely different. Other **OS_Module** calls must be passed through unmodified.

The first time we see the extend there is already a small sprite pool in the module area, since the pool is created using **OS_Module 6** (claim block) and we can't spot that.

So on the first extend we have to move the existing pool to its new location and free up the small amount of module area already used.

This also dictates that the module used to do this must be loaded as soon after desktop startup as possible.

If it is loaded before the desktop starts up there are problems, and if it is loaded too late the sprite pool in the module area will already be quite large.

To avoid slowing all SWIs down, we do not use the main SWI vector to intercept **OS_Module**.

We intercept the kernel's SWI dispatch table instead, which has an entry for each kernel SWI. This technique can only be used for kernel SWIs however.

Moving the Sprite pool

The other issue is where to put the sprite pool. We considered the system sprite pool, but this is not valid because sprites in the system sprite pool are allowed to move in memory at any time due to the shared nature of the pool, whereas the Wimp can assume that the sprites in its private pool stay at fixed addresses.

A rather less obvious, but more successful location for the Wimp sprite pool is the system heap, an OS_Heap managed area used by the kernel to store system variables, pointers to all of the loaded modules and other low level things.

It also contains FileSwitch open file handles, and on Risc OS 2 it is used by FileCore (but incorrectly, leading to occasional 'Heap full' errors at odd moments).

The system heap is harder to use than the module area, because it has to be driven directly with the **OS_Heap** SWIs, which means the heap has to be extended first and then a block claimed.

Working out how much to extend the heap by is tricky, since it is difficult to find out how much space is actually already free on the end of the last memory page already in the heap.

However, the system heap is ideal for the Wimp sprite pool because the system heap never grows very much unless very large numbers of files are opened.

All that is needed is a small hole (e.g. 32K) for the rest of the system heap to work in, and then the Wimp sprite pool on the end, as shown in Figure 4.

Provided the hole is large enough, there will never be an allocated heap block beyond the end of the sprite pool. So the sprite pool can simply be extended, and memory does not fragment.

It is true that the hole is wasted memory, but 32K is a small price to pay compared to the amount of memory that can be saved due to the module area not fragmenting.

The module we have written to do this, called *SJSprites*, is only 892 bytes in length and works on both Risc OS 2 and Risc OS 3.1. You can find it on the cover disc.

SJ Sprites module

The module includes code to print a warning if the sprite pool in the system heap has to leapfrog an existing block.

The only likely reason for this is that some other code is playing a similar game: once you have one piece of code using the system heap in this way, it all falls apart if another piece of code tries the same trick.

The warning has been seen a couple of times in normal use, but only on machines which had been switched on for several days and used with lots of different applications. In this case, the vast number of system variables defined was too much to fit in the 32K hole.

The *SJSprites* module must be loaded immediately after the desktop has started. The best way to do this is to add a line to load it as the first command in your desktop boot file.

You should also avoid loading sprites (as loaded by *NewLook*, for example) until after the *SJSprites* module has been loaded.

If you currently have any ***IconSprites** commands in your boot sequence before the desktop is started, move them. An example boot sequence is supplied on the cover disc containing the *SJSprites* module.

There are lessons to be learnt from this, when using the module area in general. If a large block is claimed (like a 1Mb buffer for a streaming tape filing system) then the chances of shrinking the module area after it has been freed are low.

But if a 32K block is claimed before the 1Mb block and then the 32K freed, this leaves a 32K hole below the 1Mb block that will allow for a small amount of growth in the module area.

Thus, when the 1Mb block is finally freed, the chances of the module area shrinking are much greater.

It is also worth noting that when freeing blocks of this size, it is good practice to call **OS_ChangeDynamicArea** to shrink the module area by 16Mb (you need to ignore the error).

This is because if there is not enough memory in the Wimp free pool to start an application, no attempt is made to use free memory from other dynamic areas.

It would be best if this were fixed in the operating system, but in the absence of this it is good practice to help where possible.

Of course, on the Risc PC you should be using a private dynamic area when claiming large blocks of memory rather than using the module area.

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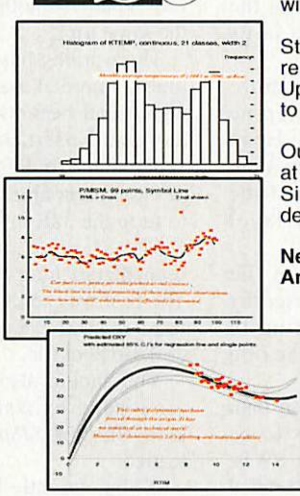
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The language of technology

James Harrison examines Acorn's involvement in education

In recent issues of *Acorn User*, Philip Ensor has examined and exploded several of the myths that surround Acorn computers, such as 'Acorn is not an industry standard, so why teach children to use Acorn systems?' and 'Acorn computers are only suitable for use in education'.

Last month's business feature in *Acorn User* showed the extent to which Acorn computers are being used in the professional market, but it is true to say that Acorn's strongest support still comes from the education sector.

When speaking to people like Peter Talbot, Acorn's General Manager for UK Education, and Kevin Coleman, the company's Corporate Affairs Manager, one cannot fail to sense the pride and involvement which they justifiably feel about Acorn's role in education, not only in the UK, but around the world.

In the UK alone, says Kevin, Acorn has a stronger team of people supporting information technology in education than any other computer company.

In fact, few British school children will finish their schooling without having used an Acorn computer.

Many PC manufacturers would dearly like schools, parents and businesses to believe that an Acorn-literate school leaver is not ready for a PC-based job market.

With the Risc PC, Acorn has in a sense bowed to this and provided schools with a platform on which they can run both the so-called industry standard software and the more education-orientated Risc OS software.

However, Acorn's philosophy, according to Kevin and Peter, is that it is far more important to teach a child how to use, manipulate and understand computer technology, than it is to show that child how to use a specific word processor or database.

It is all very well giving children an encyclopaedia, but show them how to use a library and the knowledge-base which they can access and use increases infinitely.

Supporting education

Acorn has recently undergone a major internal restructuring, with the biggest change being in the way in which it works with the education market.

Until now, Acorn's Education Business Unit has been divided into various teams: one responsible for promoting Acorn in education, seeking out the key players in the market such as IT Advisers and school governors, promoting solutions and showing Acorn in the best possible light; a second group studying the market and organising national marketing campaigns; and a third selling Acorn and its product range to dealers, providing them with contacts and leads, and supporting them in their sales and marketing campaigns.

In order to provide more consistent and comprehensive service and support, Acorn has now combined these individual teams into a single team of 35 people whose primary aim, according to Peter Talbot, is 'to get close to education, understand what is required by the market, and take advantage of Acorn's huge resources in the UK – 54 dealers, 59 Acorn Education Centres, hundreds of registered independent software developers, and the thousands of people who promote Acorn on a day-to-day basis, be it in the school, office or home.'

Another example of this is in the 60 days following the launch of the Risc PC, Acorn hosted almost 120 events around the country, visiting everywhere from the Channel Islands to the tip of Scotland, and giving thousands of people the chance to use the system.

Acorn is also increasingly using focussed mailings to reach its potential education audience, enabling the company not only to advertise throughout the school year, but to ensure that the right people get to hear about Acorn before the school year even starts.

Peter believes very strongly that if Acorn loses a single sale to a school, it must not be because the company wasn't there. 'We must compete for everything', says Peter Talbot.

With over 30,000 primary schools in the UK, this is an ambitious target.

The concerned parent

Another area in which Acorn is increasing its efforts is the 'concerned parent' market. Peter feels that it is very important to involve parents in the choice of computers used by their children both in the school and at home, and to help parents to give their children the best possible start in life as far as information technology is concerned.



SUZANNE DEAKIN



Acorn's Learning Curve pack – targeted at education

Through systems like the Pocket Book and the new Pocket Book II, and Acorn bundles such as the popular Learning Curve, Acorn wants to equip children with a skill which they will be able to use throughout their lives.

If you can understand the concept of a windows-based operating system, and know how to use a mouse, menus and so on, then you can use any operating system, whether it be Risc OS, Windows, System 7, or a Unix-based OS.

What is most important, claims Peter, is placing the right technology in the right place. Acorn systems lend themselves to giving children the ability to do what they want to do with as little interference as possible from the system – unlike Windows.

He compares a Pocket Book to a Game Boy – they're both easily accessible to children, and they're both fun to use.

Selling a service

Acorn places a very strong emphasis on its relationships with third parties such as Tesco, Psion, Superchoice and Thomas Nelson.

The company has gained considerable and extremely valuable experience working with such organisations, thus ensuring it can offer its customers the best possible level of support and service – very few companies can offer the level of expertise provided by Acorn, according to Kevin.

Peter says that many major computer manufacturers fall foul of the education market because they neither understand the market nor see where it is going.

The education market will no longer accept non-cost effective systems that don't do what is required.

One of the Education Unit's main aims is to improve Acorn's 'market intelligence' in order to be able to respond better to its customers requirements.

Being able to talk to customers and understand and give them what they want is the key.

It's all right to speak bits, bytes and hexadecimal to the enthusiast, says Peter, but too many companies make the mistake of trying to sell this to education.

New literacy and the future

Roger Broadie, Acorn's Education Marketing Manager, is the company's strategic planner for the education market – a seer of sorts.

He examines the direction that education is taking – where will education be in two or three years time or even a decade from now – and attempts to ensure that Acorn's future products cater for that future.

'New Literacy', a phrase coined by Roger, refers to the whole area of using new technology in education to benefit learning.

New Literacy round table seminars, organised by Acorn, are open forums for educationalists and industrialists from around the country to come together and discuss and examine the real benefit that educational IT should bring to the future employees of this country.

In his introduction to an article on 'New Literacy' Roger wrote this: 'You may think that computer technology in education has arrived. In a way it has but, believe me, much more is on the way.

'It will appear in all sorts of guises too, not just multimedia systems, but in computers like the Acorn Pocket Book, in spellcheckers and translators and in Photo CD. Soon we will see much more widespread communications technology in schools and homes, linking to TVs and even the next generation of games consoles!'

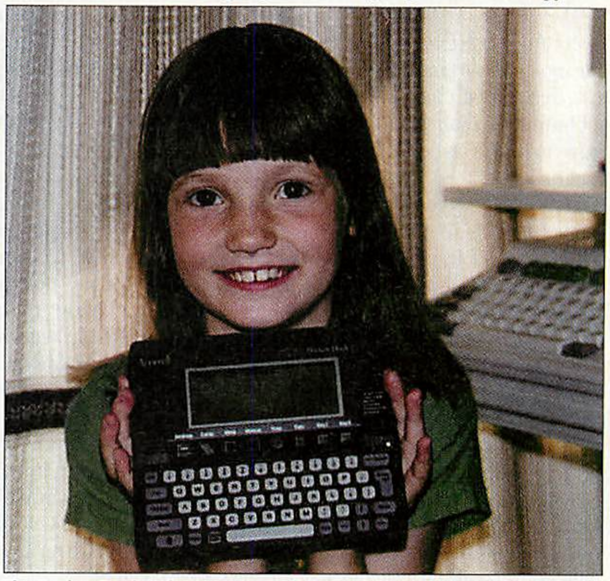
It is the manner in which this 'widespread communications technology' enters our homes and classrooms that is of prime concern to people like Kevin, Roger and Peter, and Acorn as a company.

'It is all too easy to be seduced by new technology,' claims Kevin when referring to the move in the States to equip schools with instant access to the Internet.

Placing hundreds of thousands of megabytes of unstructured, uncontrolled information in the classroom will achieve nothing but confusion, and is not the future that Acorn envisages for education.

Management of information is critical, and over the next decade or so the relationship between Acorn and Online Media and the key players in education may bear excellent results for education – controlled access to information resources spanning the globe.

Acorn has a vision: to help make the children that come out of UK schools the most IT knowledgeable and employable in the world, and to teach children a global language – the language of technology.



The Pocket Book is fun to use — as Lynne Snape, winner of the *Acorn User* Show competition knows

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I wrote that...

Having spoken to the ArtWorks team last issue, David Matthewman went along the corridor to chat to Mark Goodall about Impression

Impression has a long pedigree at Computer Concepts. In the days of the 8-bit BBC micro, CC produced first *Wordwise* and then *InterWord* – two highly regarded word processors.

'Originally, the jump from *Wordwise* to *InterWord* was thought to be hard, and the jump from *InterWord* to *Impression* was going to be easy,' explains Mark Goodall, the man in charge of the development of *Impression*. 'Actually, we were in a whole different ball park.

'In fact, because Charles [Moir, who founded and runs CC] is very good at looking forward, and not trying to keep with the past, there was very little of either *Wordwise* or *InterWord* in *Impression*.'

Impression predates Risc OS. It was being worked on back in the days of Arthur – the original Archimedes operating system – alongside another CC product, *Impulse*. *Impulse* was CC's replacement operating system for the Archimedes, before Acorn came up with Risc OS.

'For a whole year, there was just Charles and myself working on *Impression*,' says Mark, 'Everyone else was working on *Impulse*.

'I'm afraid I never thought that *Impulse* was a very good idea – I don't think third-party operating systems work, in general.

'It certainly didn't do us any favours with Acorn; they saw us as rivals and wouldn't let us have a pre-release version of Risc OS to develop *Impression* on.'

Around this time the *Impression* team was made up of Mark, Charles Moir and new member Justin Powell, who was taking a year out after his A levels.

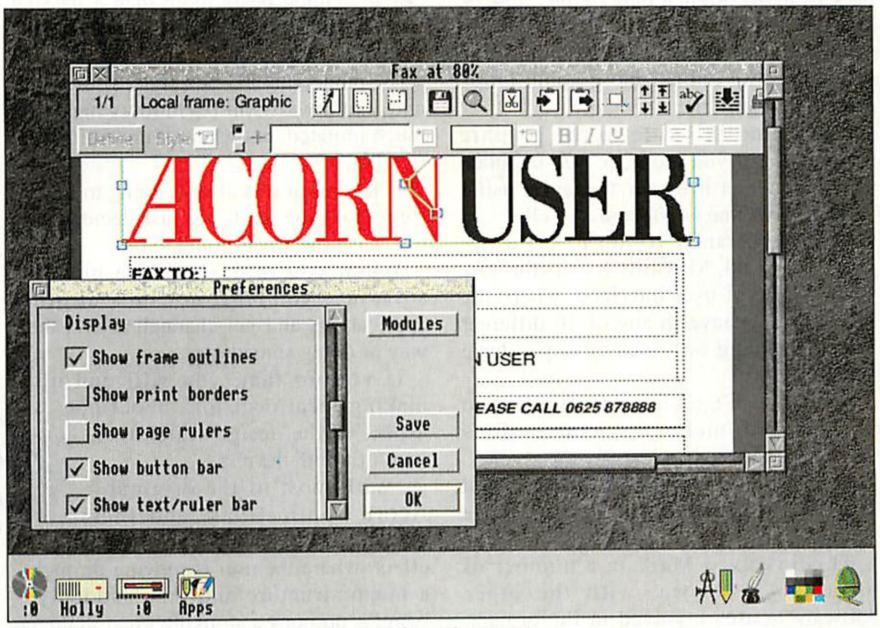
Now doing a PhD, Justin still works on *Impression* occasionally, being given the jobs that Mark says 'I wouldn't trust anyone else to do.' Another important member of both the *ArtWorks* and *Impression* teams is Gavin, a freelance programmer who has a reputation of being a magician when it comes to difficult programming jobs.

'We'll tell him: "We want to do such-and-such." Gavin will tell us why it's impossible, and then two days later have it working.'

The development of any aspect of *Impression* starts with an intensive session of design work, before a single byte of code is committed to disc.

'All the alternative ways of doing something are considered to avoid having to work around a piece of bad design later.

Mark draws up a document saying what a change will involve and what the implications will be for other areas of the program. 'At one stage early on, there was me, Charles and Justin stuck in a room for a week and a half designing the menu structure. It took us that long to come up with a structure that we were happy with.'



'The design was always going to be 3D, right from the start.'

More recently, the introduction of spot colour into *Publisher* has caused problems with the colour handling. Mark showed me three sides of A4 detailing the potential problems.

'With the introduction of spot colour, colours can now have names, which are translated into CMYK – or whatever – values. Basically, we have a cached list of colour descriptions which are pointed to by the names, whereas previously we could use the colour values directly.

'Suddenly the whole colour system has to cope with the idea that "Oh no! It's not a colour any more, it's a pointer", and I have to be very careful that we change this in every bit of the program that uses colours.'

Consistency throughout the program and user interface is a very hard thing to maintain. Designing the user interface is the most stressful part of developing the program.

'It is vital to follow "the rules" which you lay down for yourself, which means – with a program like *Impression* which is continually under development – that you have to design "the rules" with a terrific amount of foresight. In *Publisher*, for

instance, there is the tool with three linked control points in a graphics window, which can be used to move, re-size and rotate a graphic.

'The tool's been there since *Style*, but in *Publisher* we suddenly had to deal with irregular frames.

Users might want to rotate the frame with the graphic, rather than just the graphic within the frame – a problem that really only occurs with irregular frames.



'Fortunately, we already had a "rule" for this, which dated back from the original *Impression*. When you re-size a regular frame by dragging one of the control points, if you drag with Adjust the graphic is re-sized with the frame.

'Applying this rule to the graphic editing tool, if you move, re-size or rotate a graphic in an irregular frame by using Adjust, the frame is affected as well.

'I am constantly trying to get away from the "Ctrl-Alt-Shift-leg-in-the-air-Click" style of user interface, where the mouse will behave in any of 16 different ways depending on which keys you have held down.

Where I can't get away from this, I do my best to make the conventions consistent and easy to learn.'

Impression was chosen to be the word processor part of the integrated package *Advance*.

This involved Mark in a number of meetings at Acorn, with the other software houses involved in the project, and with Acorn itself. '*Impression* had just won the *Computer Shopper* award for best non-PC software,' says Mark. 'I did this terribly arrogant thing. 'I strode into the meeting, thumped the award down on the table and said "Right, this is how we're going to do things. Anyone else with one of *these* is allowed to disagree." Fortunately, everyone took it good humouredly.'

Advance was a very successful venture for Computer Concepts, from the point of view of getting discussions going with Acorn about style.

Clearly Acorn was impressed too, since the Risc OS 3 Style Guide bears more than a passing resemblance to the design of *Impression*.

The pioneering 3D box style, with ridges and windows-within-windows has been much imitated, but what prompted it in the first place?

'The design was always going to be 3D, right from the start; we just decided that this was how it was going to be.

When you're designing a piece of software, you *must not* look at other applications and get channelled into their way of doing something.



If you do that, you will end up making local decisions about one aspect of the design which then won't fit with the rest.

'With most of the original Acorn applications, and their imitators, you get this "visual shock" effect, where the user is moving through a menu structure and then suddenly – bang! – up pops a stonking great dialogue box.

'Then you move back onto the menu and – pfft! – it's gone again. I really hate this, it's very wearing for the user, and it doesn't happen in *Impression*.'

Although Acorn has recently moved towards providing central resources like the colour picker, *Impression* still uses its own.

'Yes, Acorn was a bit upset about that,' admits Mark.

'They asked us why we didn't use their lovely colour picker, and we pointed out that it was totally useless to us since it only ever gave RGB values, even if the user had specified CMYK.



We only use Acorn code for the basic Wimp commands – we write everything else ourselves.'

And, like the *ArtWorks* team, they write it using the BBC Basic Assembler. The code is written and assembled in pieces, and linked using Phil Martin's linker.

'I can link 800K of code for *Publisher* in 30 seconds,' beams Mark, demonstrating this. 'I know people developing software on the PC, and it takes them several minutes to link their code.

'When we write something, we try to get it working as quickly as possible, even if it does very little, then build round that.

'There is no way of testing code that won't run, so we write hooks and stubs to do things poorly and quickly, just so that we can test the program structure.

'Irregular frames were done slightly differently. With these, we needed to know whether we could print them, because if we couldn't there was no point in doing them.

'So we got the printing bit of the code working well first, and tested it on PostScript, direct drive and inkjet printers.

When we knew that we could print on all printing environments, we looked in more detail at the rest of the implementation.'

While clearly an Acorn fan, Mark feels that the Archimedes has not kept pace with technological developments.

'When the Archimedes first came out, it had a number of clear advantages. It was relatively cheap, had a fast, powerful processor, anti-aliased outline fonts and superior graphics.

'One by one those advantages have been eroded by the competition, and so far Acorn hasn't come up with anything new to replace them.'

A huge amount of Mark's job is clearly spent designing how *Impression* will appear to the user, rather than writing the program.

This may go some way to explain the legendary six months diff-erence between when CC says a product will be available and when it appears, but it is worth it in the end.

'The overlaid styles – with the ability to apply a style to a single letter – were very hard to get right. In fact, during our discussions on *Advance*, I don't think some of the people at Acorn could quite get their heads round the concept.

'They kept saying "But if you have a style that changes the font *here*, and another one *here*, and you remove the first one, what happens?" And it wasn't until *Style* came out that I was happy with the style editing user interface.

Despite the fact that they are very complicated in concept, users find the overlaid styles easy and intuitive to use in practice, so all the work we put into deciding how they would work must have paid off.'

First impressions

Originally a BBC programmer, Mark Goodall flirted with programming games on the ZX Spectrum which he describes as 'awful. The BBC was more powerful. I kept wanting to do all the development on the BBC micro.'

Mark was in charge of the development of *Impression* from the start, and is still managing its transformation into the *Style* and *Publisher* double-whammy.

His sheep, Flossie, has the distinction of being the subject of the first digitised picture at CC. Mark is responsible for the sheep references scattered throughout the *Style* manual.



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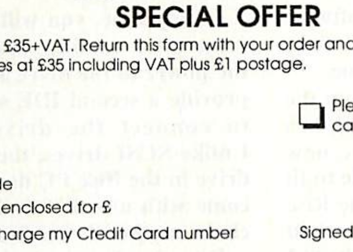
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QUESTIONS & ANSWERS

Arrays in assembler, transferring data to a Risc PC and some tips on making a boot file

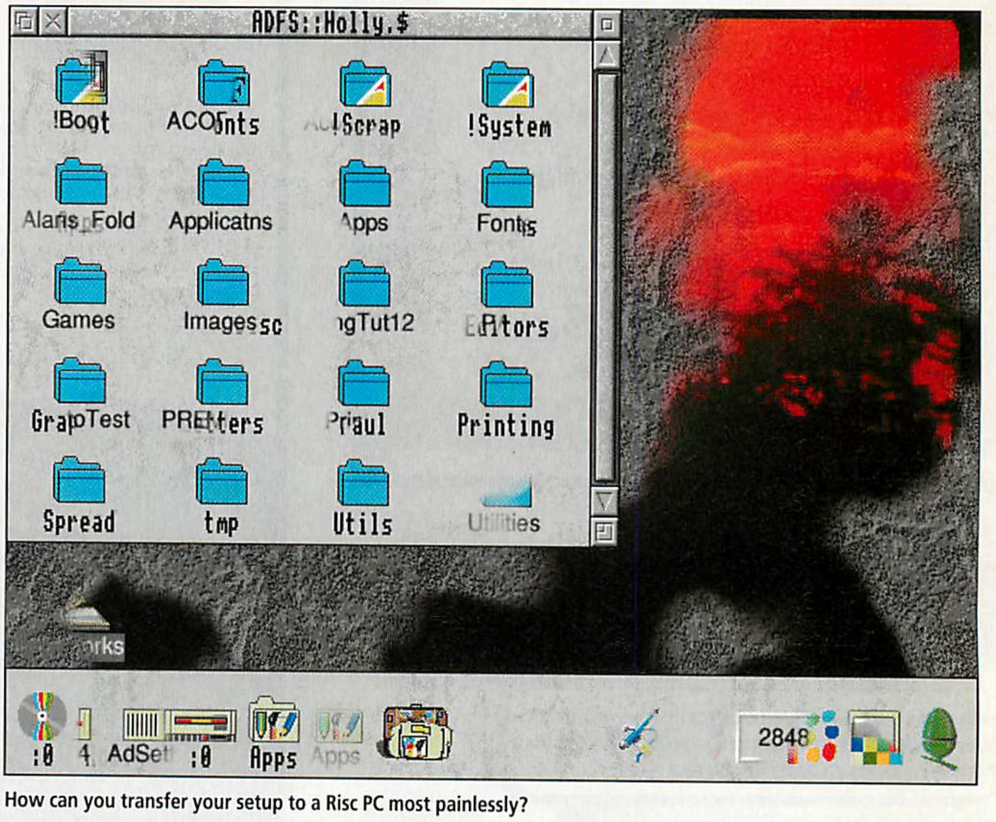
Q I have been programming the Wimp successfully now for over a year and a half in Basic, and about ten months ago I began to learn Archimedes assembly language.

I have been programming without trouble in this language and am impressed with its speed.

However, a few months ago I tried to write a Wimp program in assembly language. I failed and decided that it would be easier to rewrite one of my existing Basic programs, but that didn't work either.

I don't know how to access arrays in assembly language. For example, when you use **Wimp_Poll** in Basic you have a pointer to a 256-byte block. This causes problems in assembly language as I can't find a way of accessing the information at, say, block%!4. All the results have to go to a register.

Christopher Pedley
St Albans



How can you transfer your setup to a Risc PC most painlessly?

A **There could be a whole book written on how to use arrays in assembler, and there probably has been. *Acorn User* did a series on assembler in 1992 to 1993 by Dave Lawrence, which explained arrays in assembler. However, here is a brief summary.**

When you call Wimp_Poll for example, you must supply it with the address of a block of memory in R1. If you set up a block of memory using (for instance):

```
.block
  EQUS STRING$(255,CHR$(0))
  ALIGN
```

You should then be able to pass the address of the block to R1 by the pseudo-instruction:

```
ADR R1,block
```

After the call to Wimp_Poll you can access the memory in the block by indexing, either with a constant or with another register.

For instance, to load the contents of block!4 **into register R5:**

```
LDR R5,[R1,#4]
```

and to load it with the contents of the memory location at an offset from block **stored in R6:**

```
LDR R5,[R1,R6]
```

would be used.

If you continue to have trouble, it might be better to write the application using a mixture of Basic and Assembler, using Basic for the Wimp shell and assembler for any speed-critical parts of the program.

Q I am considering upgrading my A3000 to a Risc PC, but am concerned about the transfer of software from the IDE hard disc of the A3000 to the new machine.

Will I have to back-up the hard disc to floppies and then restore the files to the new machine, or will I be able to fit the old hard disc into the Risc PC on a temporary basis until the file transfer is finished? I don't want to fit the drive permanently as I hope to sell it with the A3000. If this is not practical, can you suggest an alternative?

Richard Still
Lincoln

A **The answer to this is a definite maybe. I assume that the drive you have, being an A3000 drive, is a 2.5in drive. You will need to remove the drive from the board that it is on, and will probably need an adaptor for the connector.**

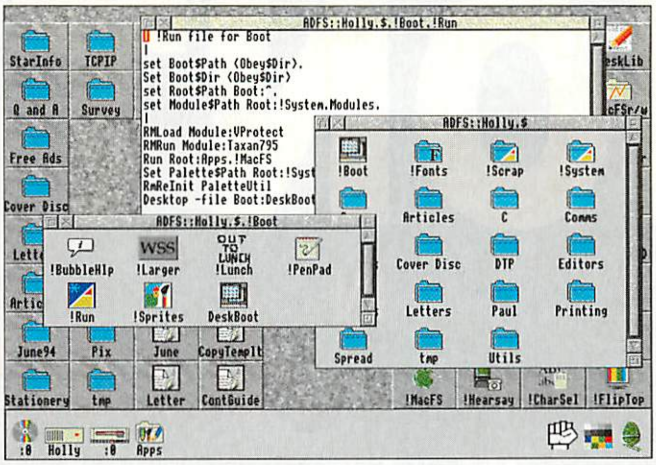
In any case, you will need some extra cabling, both for the power to the drive and to provide a second IDE socket to connect the drive to. Unlike SCSI drives, the IDE drive in the Risc PC does not come with a socket to daisy-chain another device from.

Even having done this, it might not work. IDE drives can be fussy about which other hard drives they will talk to. The Connor drive in the Risc PC will talk to most other drives, but some of the

smaller A3000 drives – for instance the 20Mb drive – tend not to work with any other sort of drive. In the end, I can offer no better advice than: 'it might work, try it and see.'

Incidentally, the IDE drives in the A5000 should function as a second drive in a Risc PC with no problem, but will still need a kit to connect them. Kits to connect a second IDE drive to a Risc PC or A5000 should be available from dealers, and should work.

The IDE drives fitted to A300, A400 and A500 series machines on a backplane should work on a Risc PC simply by plugging them into the backplane, although there may be problems with the interface. SCSI podules should also work, so data from SCSI drives can be transferred across easily.



A *Boot* 'application' can tidy your boot sequence up

If this fails, you may be back to transferring your data over on floppies.

If you have *Hearsay*, or any other package it could be worth getting a null modem cable to connect the computers together over the serial port and transferring data that way, although I believe that strictly speaking you would need a *Hearsay* site licence to do it.

As I suspect this will be quite a common thing to want to do over the next few months, I would be very interested to hear from anyone who has found a way to do it, and also from people who have found ways that clearly *don't* work.

Hints and Tips

Boot files pre-Risc PC

Note – boot files are very different on the Risc PC. The following applies to pre-Risc PC machines only.

Boot files can be used to start up a series of applications and customise aspects of your desktop on startup. In Risc OS 2 they needed to be created 'by hand', but in Risc OS 3 there is a facility to create them automatically.

First, set the desktop up how you want it, then click with the Menu button over the Task manager icon and choose the 'Desktop boot' sub-menu. Drag the icon from there to the root directory on your hard disc or boot floppy.

To ensure that the boot file is run when the computer is started you will need to set a number of options, best done from a task window (Ctrl-F12 on Risc OS 3, 'Create -> Taskwindow' from the *Edit* application's icon bar menu on Risc OS 2).

First, ensure that the current drive is the one containing the boot file, then type:

```
*OPT 4,2
```

which ensures that the boot file will be ***run** on startup. Next type:

```
*configure boot
```

so that the Risc OS will try to boot the disc. You will also have to configure both the filesystem and the drive of the boot disc. For machines which come with a hard disc as standard, this is usually ADFS, drive 4, that is:

```
*configure filesystem adfs
*configure drive 4
```

but this will vary if you boot from floppy – usually drive 0 – or have a SCSI or IDE drive on an add-on card.

Now to the file itself: a desktop boot file is all very well, but you may well want finer control over what it does. The boot file might open filer windows that you didn't want, or boot up applications which you seldom use. Fortunately, boot files are fairly straightforward and can easily be edited in a text editor to remove extraneous lines.

Furthermore, some modules – *Vprotect* is an example – should be loaded in before the desktop is entered, which won't happen if your boot file has filetype Desktop (&FEA) – only if it is an Obey (&FEB) file. However, you can't load up applications this way. My solution to this is to have a *!Boot directory* on my hard disc, which appears to the filer to be an application. Inside the directory are:

- *!Run* – an obey file. This is run first, and is where you can load in any modules and utilities which need to be loaded in before the desktop is entered:

```
set Boot$Dir <Obey$Dir>
set Boot$Path <Boot$Dir>.
set Root$Path Boot:^.
set Module$Path Root:!System.Modules.
```

Note the full stop after the lines defining path variables. This enables me to refer to *!System* as 'Root:!System', for instance. The last line is:

```
desktop -file Boot:DeskBoot
```

which enters the desktop, running the file *DeskBoot* line by line.

- My *DeskBoot* file, also in the *!Boot* directory, which was my original *!Boot* file. This is full of **Filer_Boot** and **Filer_Run** commands to boot and run applications, and **RMEnsure** commands for modules. Note that these would be **run <AppName>** and **run <AppName>.!Boot** in Risc OS 2, which doesn't have the **Filer_Run** and **Filer_Boot** commands.
- **Filer_Boot** both *!System* and *!Fonts* first, as other applications will need them. *Impression* is too large an application to load up on startup, but I do want it to load if I double-click on an *Impression* document. I therefore run the *Impression* boot file with:

```
Filer_Boot Root:DTP.!Impression
```

However, I do want to run *Larger* with:

```
Filer_Run Boot:!Larger
```

Note that I have moved *Larger* into my *!Boot* directory.

- A *!Sprites* file containing an appropriate sprite.

Next month I'll look at the situation on the Risc PC.

NEXT MONTH IN ACORN USER

Acorn World

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Shows are the most important launch platforms for new products – indeed, the Risc PC was first shown to the public at the *Acorn User* show in April – so rest assured that the rejuvenation of the Acorn scene that the Risc PC has brought about will result in some superb products appearing in Wembley. Read our stand-by-stand guide to find out what they are.

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Acorn Customer Hotline

Essential information for all Acorn Users, compiled by Dave Walker of Acorn Customer Services

Questions and Answers

How do I save a file from *First Word Plus* into another word processor?

Turn WP mode off by going into the Edit menu and click Adjust over 'WP Mode'. The tick by it should disappear. You can then save your file as plain ASCII text, which can be loaded into your alternative package. You will, however, then have to re-format your headings, fonts etc.

When I try to print a file, I get a

```
Filesystem or Path Printer: not found
```

error; what should I do?

The Parallel Device Driver module, which drives your printer port, has become unplugged. Save all your work, exit from the Desktop (press F12) and type:

```
*Unplug
```

to give a list of unplugged modules; this device driver should be among them. Type:

```
*RMReInit ParallelDeviceDriver
```

to re-initialise it, follow this with a Ctrl-Break, and re-load your printer drivers.

Faster text printing

If you use a colour printer, you may notice that printing in black takes longer than it would with a monochrome printer; this is most noticable when printing text. This is because, by default, the Printer Definition File for a colour printer is set to use the maximum number of hues available with that printer.

Monochrome printing on colour printers can be speeded up by configuring another 'virtual printer' to print in monochrome only; drag a second copy of the relevant Printer Definition File into the control window so that you appear to have two identical printers.

Use the 'Configure...' dialogue box to change the name of one or both of the printers, and de-select the 'Colour' option in the 'Configure...' dialogue box for one of the virtual printers.

You can then switch between colour and monochrome printing simply by clicking Select over the relevant 'virtual printer' on your icon bar.

The selected printer is shown in a bright colour, while other printers are greyed out. Alternatively, you can turn the colour option on and off within a single installed printer driver.

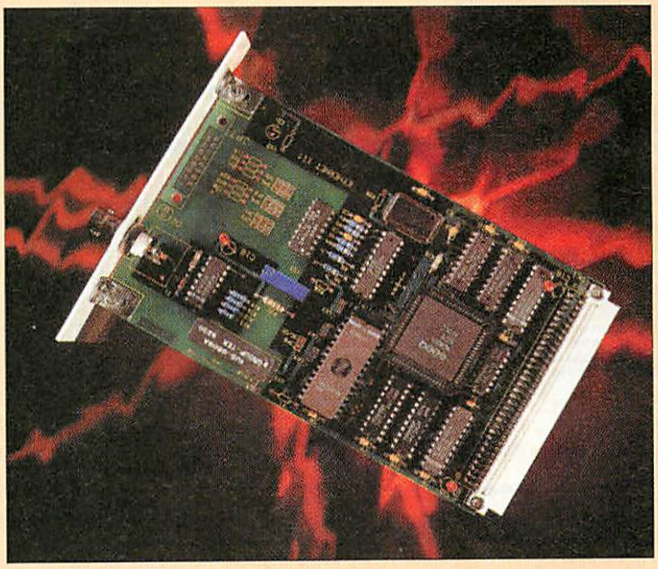
Ethernet III configuration tips

The configuration of the Ethernet card is stored in CMOS Ram, and hence may be changed using the *Configure command. This takes the form:

```
*Configure <driver> <option> [<n>]
```

where:

- <driver> represents the driver type in use (Ether3, supplied with the Ethernet III card, or EtherB, with the Risc PC-specific Ethernet card).



- <option> is the option to set, from the list below.
- <n> is an optional numeric parameter, for use with drivers supporting multiple network podule cards, to choose by slot number which card to configure. If this is omitted, all cards will be affected.

The configuration options are:

- Disable/Enable: 'Enable' enables the card to be used. 'Disable' prevents the card undergoing self-test, and prevents receiving and transmitting of packets.
- OldInet/NewInet: Configure as 'NewInet' unless you are using versions of the *Internet* or *InternetA* modules prior to 2.00. NewInet supports faster data transfer.
- Strict/Ignore: If 'Strict' is configured, then should the interface fail self-test it will return an error and not activate itself for network access. If 'Ignore' is configured, the card will start up whether self-test is passed or not. Normally, the card should always be configured 'Strict'.
- NoLiveWireTest/LiveWireTest: These determine whether the network cabling is tested during the card's self-test sequence. If 'LiveWireTest' is configured, both valid and erroneous packets are passed to the network, and tests verify whether these packets are correctly received. Configuring 'NoLiveWireTest' prevents this test being performed.
- Terse/Verbose: When configured 'Terse' the driver will only report information when needed; the self-test occurs 'silently' and the card interrogation commands ***Ether3Info** and ***EtherBInfo** will only report individual statistics if the count for that statistic is nonzero.

  If the card is configured 'Verbose' then all self-test stages will have an associated message displayed, and all network statistics will be displayed on interrogation.
- Default: This sets the previous five options to their default settings, which are:

```
Enable OldInet Strict NoLiveWireTest Terse
```

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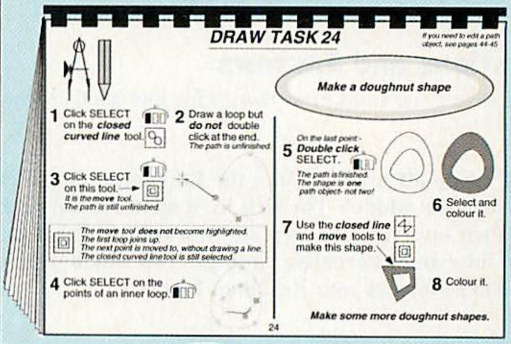
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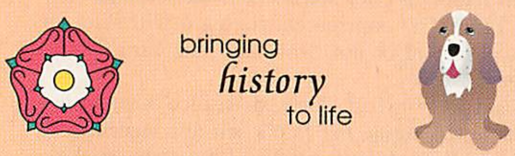
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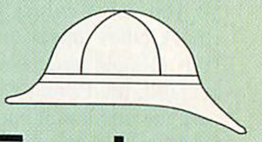
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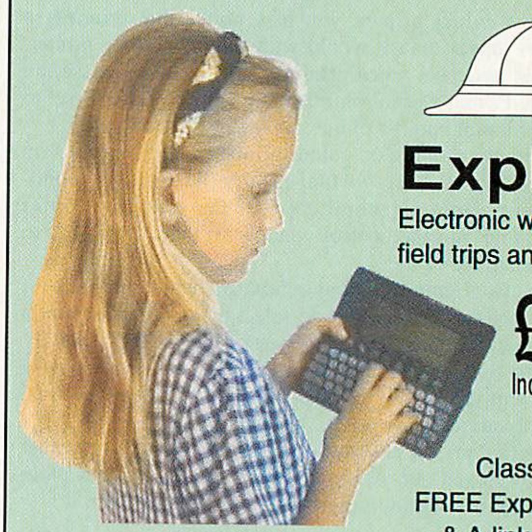
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C for Yourself

This month, David Matthewman starts to look at the different types of variable available in C

In Fortran, whether a variable was an integer or not depended, by default, on its first letter. If it started with a letter between I and O inclusive, it was an integer, otherwise it was real. In BBC Basic, integer variables ended with a % sign, strings with a $.

In C, a variable can have any type, so the compiler needs to be told what type the variable is before it is used.

This is called *declaring* the variable. It usually happens on the first few lines in a program or procedure. Declarations, as mentioned last issue, have the format:

```
var_type var_list;
```

where **var_list** is a list of one or more variables of type **var_type**, separated by commas.

Variable types

The most common data types in C are:

- **char**: a single byte variable, often used to store individual ASCII characters, hence the name.
- **int**: an integer variable.
- **float**: a 'real' or floating-point variable.
- **double**: also a floating-point variable, but usually with double the precision of **float**.

The number of bytes taken up by these variables, and hence the maximum size of number that can be stored in them, can vary from compiler to compiler, although **char** is nearly always a single byte.

The **int** type is usually four bytes long on the Archimedes. It can be modified by the **short** and **long** declarations, as in:

```
short int pintsize;
```

or, equivalently:

```
short pintsize;
```

but on the Archimedes compilers, these all tend to produce four-byte numbers.

All the integer and **char** types can be **signed** or **unsigned**, though there is no need to make them either explicitly.

Integers are signed by default, but whether or not **char** variables are depends upon the compiler – they are unsigned in *EasyC*.

The program *Signed* on the disc will determine whether or not **char** variables are signed on a particular compiler.

Signed integers can hold the same range of values as unsigned ones but, whereas unsigned integers hold values from 0 to n, signed integers hold values from (roughly) -n/2 to n/2.

For instance, an unsigned character variable will hold values from 0 to 255, while a signed one will hold values from -128 to 127. Both types have a range of 256.

Floating-point numbers of type **double** will usually – but not always – hold larger numbers to a higher precision than those of type **float**.

There is a further type, **long double**, which may give more precision yet.

With the *EasyC* compiler, the largest **float** value is 3.40282374E38, and the largest **double** and **long double** values are 1.79769313486231571E 308. Note the extra digits of precision in the **double** variable.

Having declared your variable, you will wish to assign a value to it. This can be done easily by a statement of the form:

```
i = 42;
```

though numbers may be specified in a number of different formats. They may be octal or hexadecimal: an octal number is prefixed with 0 (zero), and a hexadecimal one with 0x or 0X. The numbers:

```
30
036
0x1e
```

and

```
0X1E
```

are equivalent. A number with an l or L suffix is defined to be **long**, and one with a, u or U suffix is **unsigned**.

Floating point variables can end in an exponent (6e23), contain a decimal point, or both.

Note that by default their type is **double**, although they can be suffixed with f or F to give them type **float** and with l or L to give them type **long**.

Characters are enclosed within single quotes. Non-standard characters can be represented by escape sequences starting with a backslash, \. For instance, a newline is:

```
'\n'
```

Variables of type **char** actually hold an integer representing the character in question, so it is perfectly legal C to write:

```
char char1,char2;
char1 = 48;
char2 = char1+8;
```

Though this will normally pose no problems, it is worth remembering that the actual integers assigned to the characters may change from

machine to machine and from compiler to compiler.

It's not even safe to assume that if a given character is 'a', the character five up from it will be 'f'.

The program *Characters* on the cover disc demonstrates the escape sequences permitted for a character variable.

Initialisation

When variables are *declared*, they can also be initialised with a starting value. This is done by following the variable with an equals sign and a number or character, as in:

```
char initial = 'D';
int babylon = 5;
float small = 1.0e-5f
```

If a declaration is preceded by the **const** keyword, it specifies that the variable's value will not be changed. For instance:

```
const double e =
2.71828182845905;
```

Exactly what happens if a program attempts to change the value of a constant variable depends on the compiler, but most compilers will get upset.

If you have a variable whose value you know to be constant, it is therefore worth declaring it as **const**, so that you will be warned if you try to change it.

Casting

What happens if you wish to assign, say, an integer value to a floating point variable? For instance, in the following code:

```
int i;
float temperature;
...
i = temperature;
```

This varies slightly from compiler to compiler, but the general behaviour is to compile the code correctly, but to warn the programmer that a *cast* from one type to another has taken place.

When we come to look at pointers, we will discover that the compiler will generate an error if an attempt is made to assign one type of pointer to another. C compilers like to be reassured when this type of conversion takes place.

The way to do this explicitly is to *cast* the variable into the desired type, by including the type in brackets before the variable.

In our example, we would write:

```
i = (int) temperature;
```

which tells the compiler that you, the programmer, are aware that **temperature** is a floating point number, but that you wish it to be treated as an integer in this instance.

Next month I will look at performing operations on variables: adding, subtracting, bit-shifting and other factors.

Until then, you can look at the program *HofLords* on the cover disc, which declares a number of variables and assigns values to them.

The values all match the declarations of the variables, so the program should give you some idea of how to write the different types of number.

Previously in Acorn User...

Last month, the cover disc programs all contained deliberate errors. These were:

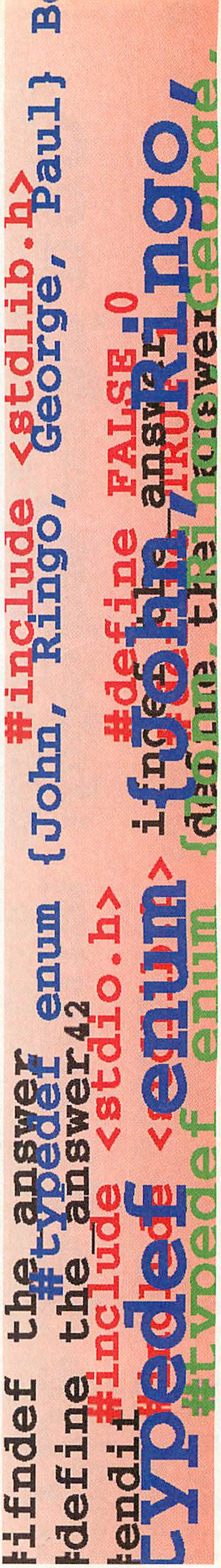
- Prog1: a missing closing brace on the last line. The compiler would have spotted this, but because the code was indented, it should have been obvious anyway.
- Prog2: no semicolon after the char i line. The compiler should have spotted it, but may have reported the error as being in the next line, because it is only when it comes to the for keyword that it knows there has been an error.
- Prog3: this program would both compile and run, but not do what the programmer intended. Lines 12 and 13 are both indented, and clearly intended to be inside the for loop, but are not enclosed within braces. Because of this, only line 12 is in the loop, and only one character of the string is printed, when the loop is exited.
- Prog4: Firstly, there is an unnecessary semicolon after the second line. This doesn't matter in practice, but shouldn't be there. Secondly, the programmer clearly pines for Basic, since the string in the first printf statement is not enclosed in parentheses, while the second is. The second form is correct.
- Prog5: This one was perhaps a little unfair. The switch statement in line 10 should not end with a semicolon, as the two later lines are actually still part of the statement. Most of C follows this construction – for or if statements do not have semicolons separating them from their associated statements.
- Prog6: the 'Set up all the names' comment has no closing */, meaning that the next six lines are all taken as comment. The program compiles with a warning, but won't run, because the commented-out lines are needed. This error is very easy to spot if you use the editor *Zap* in C mode, which colours all comments green.

C User Group

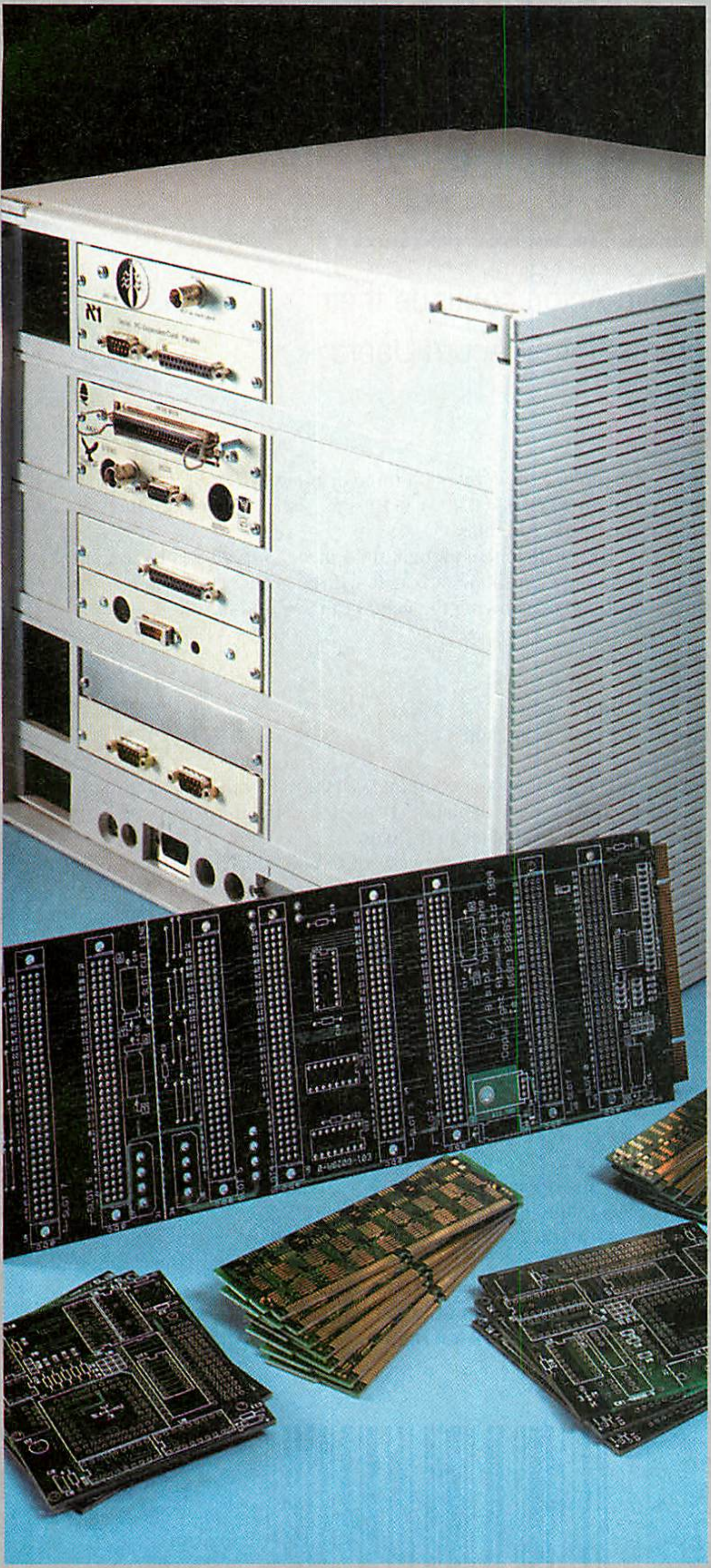
The C Acorn User Group (CAUG) is a year-old special interest group of the Association of C and C++ users, and supports C and C++ users on Risc OS machines. Its membership includes beginners and experts, and Acorn and Risc Developments – suppliers of the major C compilers – are also members.

It publishes a bi-monthly journal and an occasional disc. Reviews of products such as *Easy C* and *StrongEd* are published, as are both introductory and advanced articles on programming the Wimp. The discs contain a variety of things, including a template editor and an assembler.

To join, contact the chair of the ACCU for a membership form and a sample of the CAUG magazine: Francis Glassborrow, 64 Southfield Road, Oxford OX4 1PA. Tel: (0865) 246490.



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*INFO

Dave Lawrence and Dave Acton continue their monthly look at programs, for all Acorn Users

A good (or bad) read

Richard Wareham's *ReadEase* is a program which calculates how easy a certain text file is to read. For a given piece of text, it calculates the so-called 'Reading Ease Quotient'. The higher this number the more difficult it is to read.

For values less than 16 this corresponds to the average age of a child that could read the text, after this the numbers are just a measure of how difficult the file is to read.

Therefore a quotient of 7.85 should be readable by an eight year old, but the same child wouldn't have to wait 18 years to read some text with a quotient of 25.3.

You can, however, compare the two values as Reading Ease Quotients have no upper limit. (We fed the text of this month's *INFO through this program and it came up with a value of 16.2; some other interesting values can be seen in table 1)

The program works out the Reading Ease Quotient by using the FOG formula. This was invented in 1952 by an American psycologist named Gunning.

Given the mean number of words per sentence W, and the percentage of words with three or more syllables P, the quotient F is defined as F = 0.4 (W + P) + 5. '-ed' and '-ing' endings are not counted as syllables.

To calculate the quotient for a piece of text, simply drag its icon to the eye on the icon bar. It will be scanned and then a window will pop up showing the values of P, W and the all important F.

Text	P	W	F
*INFO	12%	16	16.2
Revelations	5%	17	13.8
PipeDream Help	11%	18	16.6

The formula for counting syllables is quite complex and is of Richard's own devising. It uses several rules to enumerate the number of syllables in the word.

Have a look at the various **CASE** and **IF** statements in the function **FNsyllables** to see how it works.

Author: Richard Wareham

Barcodes – it's all in the stripes

Here's a second offering from Richard Wareham that, suprisingly enough, allows you to create barcodes. As well as its own file format, *BarCode* can produce *Draw* files and sprites.

To run *BarCode* simply double-click on its icon in the directory display. It will install itself on the icon bar as usual. The icon bar menu provides standard Info, Save, Print and Quit options which should all be fairly self explanatory.

The program itself does not run on the desktop but is still accessed by clicking on the icon bar – this will present you with the main menu.

The main screen provides Information, Edit, Display and Quit options. There is also a Save Option which allows you to swap between Sprite, *Draw* and *BarCode* file formats for saving, and Quit returns you to the desktop.

To create a barcode, select the 'Start New' option from the main menu. From here, select 'Set Article Number' – this is the number that appears below the main barcode. This means that any numbers to the right or left of the main chunk of black and white must be discounted. Most article numbers are 12 digits in length.

The program will only accept input of 12 numbers, so don't try pressing return after typing only ten numbers. *BarCode* will ask you if the above number is correct and if not it will allow you to input it again.

Now select 'Set A and B sets'. This allows you to specify the number that normally appears to the left of the barcode. This number describes what pattern of number sets (see file *NumberBars* in the *Examples* directory) the barcode will use. These are always in the form:

```
XXXXXX CCCCCC
```

where the XXXXXX stands for the pattern of As and Bs that appear next to the number. The menu has an option 'More ->' at the bottom.

This leads to another menu with the remainder of the numbers and '<- Back' in it.

'<- Back' will take you back to the first menu. Both menus have the option 'Back to New Barcode Menu'. This will take you back to the 'Start a New/Edit Current Barcode' menu.

After this you can view your barcode from either menu.

Article Number : 123456789012
Style : AAAAAA CCCCCC
Format : EAN

0 123456 789012

© Copyright R.J.Wareham

Important: due to the structure of this program it is *vital* to keep the disc in the drive when jumping from the desktop into the main program and when using the icon bar menu.

Richard would like to thank Michael Attenborough for submitting his program *Make-Draw* in the December 1992 issue of *Acorn User*.

He used these routines extensively in the *Draw* file saving part of the program.

Author: Richard Wareham

Mour Mourik

Two more contributions from the automata-mad 'Welshman' Jean Van Mourik. Firstly *Breeder* . . .

Breeder

Two generations of the automata are always on display – the current generated pattern is based on its static twin. The static pattern is the generation previous to the current pattern. Every pixel is processed in an evaluation algorithm, in this automaton it takes the following form;

```
(P1+P2+P3+P4) MOD T%
```

where **Pn** is the colour value of the four neighbouring pixels. The value of **T%** depends on the number of colours used. The result of the equation becomes the colour of the pixel under evaluation in the current generated pattern.

The shape present at the start of generation could be anything, but interestingly it turns out that whatever seed pattern is used, its shape appears in multiples after specific numbers of iterations, hence the name 'breeder'.

In this routine a coloured circle and disc are used as seed shapes. Because of the symmetrical properties of the circle and disc only one eighth of the pattern is evaluated. After a pixel's colour is calculated, the same colour-value is used to plot 8 pixels (x,y) (-x,y) (x,-y) (-x,-y) (y,x) (-y,x) (y,-x) (-y,-x). When the routine is started, one is given the choice of either 2, 4 or 16 colours used in the pattern. This becomes the value of **T%** used in the evaluation algorithm.

There is also a choice of resolutions – more colours results in an increased complication of the patterns. This is just one example of many possible evaluation algorithms in cellular automata. The secret is to experiment. Sometimes beautiful patterns emerge and unexpected and interesting processes evolve.

Candy

Candy produces wonderful three dimensional-looking results. These are made more amazing when you realise they are drawn using eight colours.

The routine uses two arrays to record pixels at the active edges. **x%()** records the x components of the coordinates of these pixels, **y%()** records the y components.

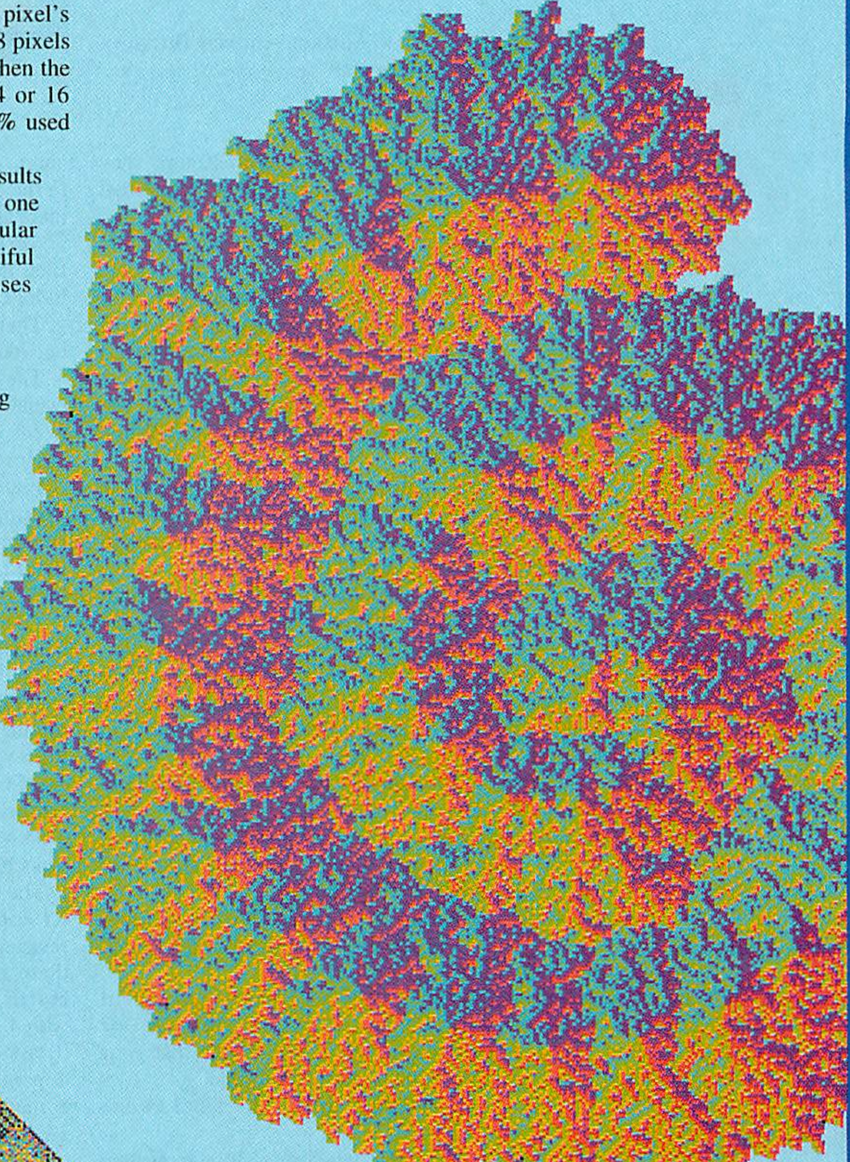
The edges extend while the texture grows in size. Each active pixel is processed such that if neighbouring pixels are found to be in background colour (black), then these coordinates are added to the list – pixels are chosen at random from the arrays for processing. A counter keeps record of how many coordinates are stored, so the active-edge pixel-coordinates listing constantly waxes and wanes in size.

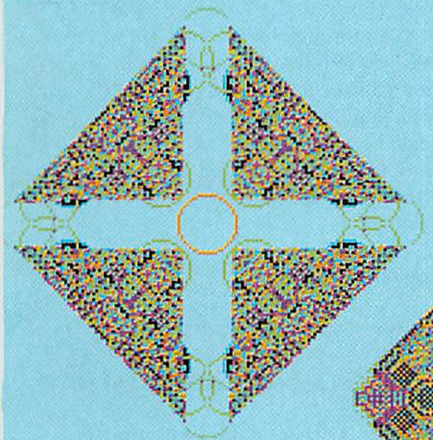
According to the direction of growth (one of eight), the pixel acquires a colour. The central pixel then becomes enclosed and is erased from the arrays by overwriting it with the last entry, and the listing's size is adjusted. This process is repeated until the screen is filled with a texture.

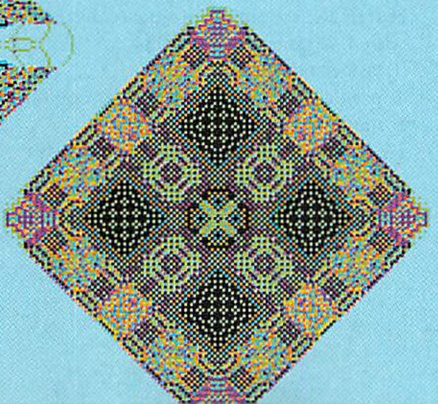
Jean called it *Candy* because that is what it looks like – mountains of candy. There is another implementation of this routine called *Maze*. In this routine a maze is flooded with a 'candy' texture. One can also observe the process magnified at the pointer's position.

There is a third incarnation called *Candied*. We wrote this ourselves, although it was a photo of a screen like this that Jean originally sent us about a year ago.

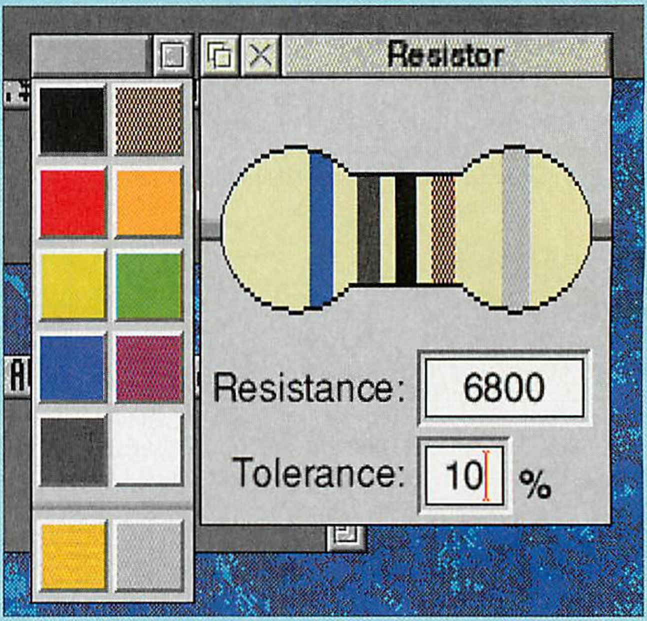
Author: Jean Van Mourik







Resistance is not futile!



Some time ago we carried an 8-bit program to display and decode the colour-coded bands on resistors. At last we have a desktop version from Andrew Burrows.

After installation on the icon bar, click on the *Resistor* icon to open a small window. This shows a diagram of a resistor, complete with colour bands, and has two writable icons showing resistance and tolerance.

You can use the utility either way round – by entering values or by dragging the appropriate colours from the separate tool panel onto the resistor itself. Resistance values may be entered in the following formats:

Example	Value
100	100 ohms
100R or 100r	100 ohms
1K or 1k	1,000 ohms
1M or 1m	1,000,000 ohms

Both four and five band resistors are supported – select the type required from the icon bar menu. If a specified resistance cannot be represented properly, the resistor will show the colour bands for the nearest representable value.

For example, 5672 ohms cannot be represented in four-band format so *Resistor* will show 5670.

Author: Andrew Burrows

Filter Tips

Two elegant module applications now, from Andrew Kemp. They make use of Risc OS 3's FilterManager to add some much needed features to the desktop.

Both are presented as applications, so double-click on *Filters* and *PinFilter* to install the modules.

Filters offers three 'patches'. Firstly, the Filer is forced to confirm delete operations, but only those. So, you can turn off Confirm from the Filer options menu so that copying etc. doesn't require confirmation – only deletion.

Also, ***IconSprite**-ing is made easier. Simply drag a sprite file onto the Palette Utility icon and it will be loaded into the Wimp sprite pool as if with ***IconSprites**.

Holding down Shift while dragging a sprite file onto the Palette icon performs a ***ToolSprites** instead, so you can try out new window borders etc. without resorting to the command line. In either case, the screen is redrawn completely.

You can also force a redraw by clicking on the Palette icon with Adjust. Finally, setting the CSD is made a doddle. Simply drag the (Acorn) Switcher icon onto the desired directory with Adjust.

PinFilter operates in a similar way to *Filters* to provide another trio of desktop patches – this time to the Pinboard. Once installed, icons in save boxes may be dragged straight onto the pinboard, in which case they are saved in *PinFilter.Temp*.

You can alter the variable **PinFilter$Path** in *PinFilter.!Run* to point to another temporary directory if you wish.

Since the Pinboard doesn't provide any means of deleting files, you can click on Info on the Pinboard menu to open the temporary directory – useful if you want to have a clear out.

Directories are normally iconised in the same way as windows. *PinFilter* intercepts attempts to iconise directories and instead, pins the directories themselves to the board.

Andrew points out that this filter does not become active until the Filer has received at least one UserMessage or UserMessage_Recorded. This means that it is possible that your first attempt will actually iconise the window as normal.

Thereafter, the patch should work fine. The final tweak provides keyboard-free iconising.

Click and hold down Menu over a window's close icon then click Select before releasing Menu. In other words, Menu has taken over the role of the Shift key.

The FilterManager is the module that makes all this possible and is a surprisingly useful (and legal) way of patching or adding to the desktop. Filters come in two basic types – Pre and Post and there are SWI calls to register and de-register each.

SWI **Filter_RegisterPreFilter** is called with R0 = pointer to filter name, R1 = address of filter routine, R2 = value to be passed in R12 and R3 = task handle to which filter is to be applied.

Thereafter, whenever the specified task issues a **Wimp_Poll**, our routine passed in R1 is called before the Wimp carries on.

The routine is called with R0 = event mask, R1 = pointer to event block and R2 = task handle. Our routine can then modify the event mask if required, or perform other operations providing other registers are preserved.

Filters may also be inserted before the Wimp returns after a **Wimp_Poll**. The call SWI **Filter_RegisterPostFilter** takes R0 = pointer to filter name, R1 = filter routine, R2 = value to be passed in R12, R3 = task to apply filter to (0 for all) and R4 = event mask (as for **Wimp_Poll**).

The task will be paged in and our filter may modify R0 and the contents of the buffer at R1 if desired, to 'fake' a different event.

To complete the picture, two calls (**Filter_DeRegisterPreFilter** and **Filter_DeRegisterPostFilter**) are provided to remove filter routines. They take R0 = pointer to filter name, R1 = filter routine, R2 = value for R12 and R3 = task handle.

Of course, you must know the handle of the task you wish to 'intercept'. If you only know the name, you can use **TaskManager_EnumerateTasks** to go through the list of current tasks by name until you find the one you're interested in.

The routine takes R0 = 0 for first call (or value from last call), R1 = pointer to buffer, R2 = buffer length. After each call, the registers are returned thus: R0 updated for next call, or negative if there are no more tasks, R1 = pointer to first unused word in buffer, R2 = number of unused bytes in buffer. The buffer is filled with 4-word entries like this:

0 task handle
4 pointer to task name (must be copied before use)
8 memory used by task (K)
12 flags (bit 0 set if module task, bit 1 set if slot is draggable, other bits reserved and 0).

To demonstrate this little call, you'll find a short Basic program *ListTasks* along with Andrew's utilities.

Author: Andrew Kemp

Big sounds

Tim Gladding supplies this sound sample player with a difference – it can comfortably play back huge samples straight from hard disc or even floppies. It's fully multi-tasking too.

HDSamples is very easy to use and provides full interactive help. Install it in the usual way and double-click on any *Armadeus* style sample file (type &D3C) to play. The playback status window will also be opened. This shows the size of the sample, how far we are through it and has buttons to abort and restart the playback. From the icon bar menu, an Options window can also be opened. This allows control over a number of parameters, such as playback speed and volume. When the Stereo Effect icon is ticked, samples will be played on both the left and right stereo channels, separated by a small delay giving more 'depth'.

You can hear the effect best when using stereo headphones. (This option will *not* take effect until the start of the next sample to be played.) Selecting Load Any Type forces *HDSamples* to try to play any file dropped onto it. The volume can be set from 0 (silent) to 100 (full). Tim says: 'My internal/infernal speaker doesn't do anything after about 60% but my stereo system can pick up samples at a lot lower volume levels. If possible, use an external volume control rather than this.'

The replay speed can be set to any four standard values or a user-defined rate. There is also an icon which can be ticked to ignore in-file sample rates, using the rate shown in the Options window instead.

Store saves the current option within the *HDSamples* directory. The values of two system variables (currently set in the *!Run* file) also determine how samples are played back. **HDSamples$StereoDelay** controls how long a delay (in system beats) there is between the sound channels when the stereo effect system is used.

The default is four but this can, currently, be altered to any value between two and 16.

HDSamples$Options essentially contains a textual form of the icons in the Options window. Look at *!Run* for an example. The main benefit of having these two variables is that their values are saved in any Desktop boot file. *HDSamples* provides a simple scripting system. An HDScript file should be of type &1CD and created using *Edit* or similar. Such a file is simply a list of sample file names to be played in sequence.

Comments preceded by # may also be included. *HDSamples* is primarily designed, surprise surprise, to play sound samples directly from your hard drive. However, samples may also be played from any other filing system and any device – providing the data transfer rate is high enough and the sample playback rate is low enough.

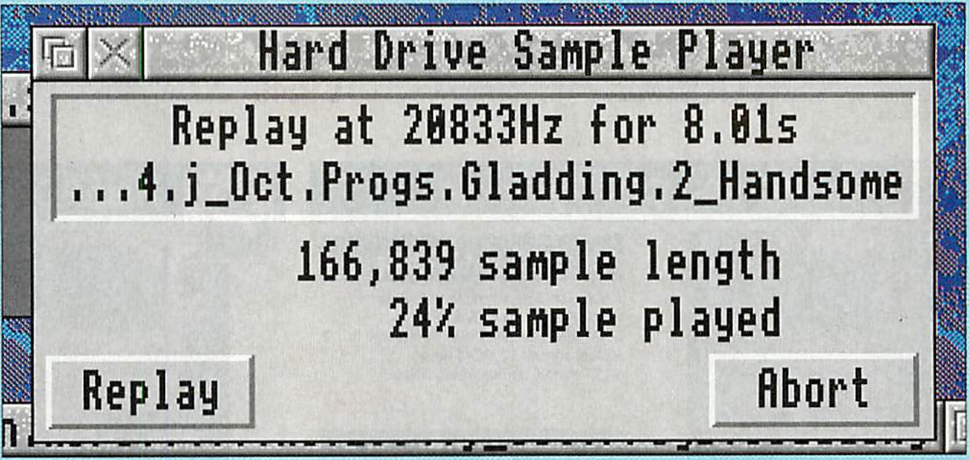
You can experiment as you like and the only side effect of your choice of filing system/backing store type is – because the player cannot obtain the data it needs fast enough to send to the sound system – parts of your sample will start repeating itself.

If you experience this effect, simply abort the current playback, lower the sample replay speed, make sure the option to 'Ignore sample rate stored in file' (from the options window) is switched on and click on Replay.

Alternatively, give more time to the player by changing to a lower res screen mode and/or quitting other processor intensive tasks.

Samples will playback from floppy disc (ADFS 800K E) at low sample rates, although the system is almost unusable (even with an Arm 3) without interfering with the sample. As for networks, a not so busy Econet at a low sample rate might work.

Author: Tim Gladding



Acid (back) drop

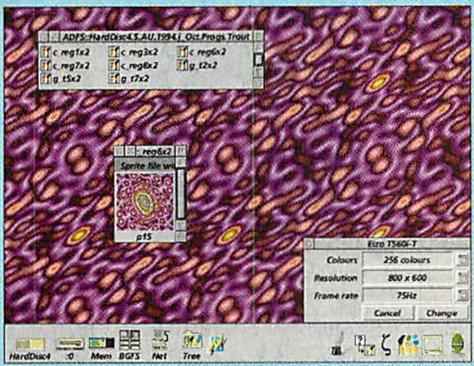
This is a wild and wacky collection of sprites from Nick Trout, which can be tiled together to produce a desktop backdrop (if you're feeling a little weird in the head that is).

The c_ prefix means (256) colour, g_ greyscaled. All have x2 suffixes meaning they are double sized (256x128) (Nick did send some 128x64 ones but we didn't have enough disc space!)

The images were created using Jan Vlietink's Fast Fourier Transform program from earlier this year.

By using *ChangeFSI* and *Paint*, they were then touched up and adapted.

If this isn't all too cosmic for you, try renaming the sprites to tile_1 and **IconSprite**-ing the file on Risc OS 3.5 to freak out your windows.



Author: Nick Trout

Small orbit

This one-liner from Steve Beer was inspired by *Friction* in the June issue, among other things. It's perfectly harmless and perfectly useless and when you get fed up with it you can quit it from the Task Window.

Author: Steve Beer

*QUIT

All offerings, large, small, clever, pretty or even useless are always welcome. Send them to *INFO, *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Name, address and program title on every disc please and include a text file containing same. An SAE will ensure your disc's return. Also include whatever instructions, diagrams, examples and screenshots you can.

Watford Electronics

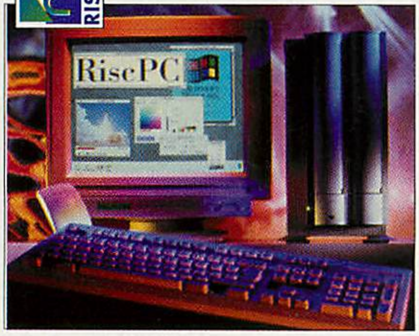
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RiscPC 600 Computer Systems



The RiscPC from Acorn offers all the traditional strengths of RISC processing, and a great deal more, at a remarkably affordable price. Based on a 30MHz ARM610 processor, the RiscPC simply leaves the competition standing.

It is the world's most cost-effective 32-bit RISC computer. The graphics on the RiscPC are astounding - 24-bit colour (2Mb VRAM required) at resolutions up to 1600 x 1200 pixels. The memory capacity starts at 2Mb and can be expanded to a massive 256Mb. A special slot for a 2nd processor is provided, allowing you to add an additional ARM processor or any other processor, so allowing easy low cost access to DOS and Windows based applications.

The standard sound system offers 8 channel stereo sound, which can be upgraded with the optional 16-bit sound card. Networking options include Econet and industry standard Ethernet. There is also a choice of either 14" or 17" monitors.

Specification:
- ARM610CPU running at 30MHz
- 2Mb, 4Mb or 8Mb RAM expandable to 256Mb
- 210Mb or 420Mb IDE Hard Disc Drive
- up to 2Mb VRAM for high resolution graphics
- 8 channel stereo sound
- up to 1600 x 1200 dpi resolution
- 24-bit colour graphics
- 2nd processor slot
- RISC OS 3.5 operating system in ROM
- 2 or 4 32-bit expansion slots (expandable to 8 slots)
- 3.5" 1.6Mb high density floppy disc drive
- 5.25" drive bay for floppy disc or CD ROM drive
- 14" EPA compliant SVGA monitor (AKF60)
- 12 months On-site warranty

RiscPC Upgrade Options

Memory Upgrade Options

ARA0340/U	upgrade from 2Mb to 4Mb RAM	£59.00
ARA0350/U	upgrade from 4Mb to 8Mb RAM	£149.00
ARA0370/U	upgrade from 8Mb to 16Mb RAM	£279.00
ARA0400/U	upgrade from 0Mb to 1Mb VRAM	£109.00
ARA0410/U	upgrade from 1Mb to 2Mb VRAM	£79.00

Hard Disk Upgrade Options

ADA1520/U	upgrade from 210Mb to 420Mb IDE hard drive	£119.00
ADA1530/U	upgrade from 210Mb to 540Mb IDE hard drive	£179.00

Monitor Options

MKA1640/U	upgrade from 14" to 15" Aries 5000 monitor	£99.00
MKA1620/U	upgrade from 14" to 17" Aries 7560 monitor	£299.00
MKA1670/U	upgrade from 14" to 17" Acorn AKF85 monitor	£379.00

Miscellaneous Options

AEA1650/U	upgrade to 4865 x 33 PC Card	£99.00
APAQ250/U	upgrade to dual speed CD ROM drive (CAA300)	£189.00

RiscPC 2M HD210
- 2Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- 2 expansion slots
- 14" EPA compliant SVGA monitor

£1249

RiscPC 5M HD210
- 4Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- 1Mb VRAM for enhanced graphics
- 2 expansion slots
- 14" EPA compliant SVGA monitor

£1399

RiscPC 9M HD420
- 8Mb RAM expandable to 256Mb
- 420Mb IDE Hard Disk Drive
- 1Mb VRAM for enhanced graphics
- 4 expansion slots
- 14" EPA compliant SVGA monitor

£1699

RiscPC 600 CDi Systems



Enter the world of multimedia with the RiscPC CDi system. Gain access to massive amounts of data on CD ROM – study the masses of text, pictures and sound all interacting with each other.

RiscPC 5M CDi System
- 5Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- 14" EPA compliant SVGA monitor
- Dual speed CD ROM drive
- CD bundle as described below

£1599

RiscPC 9M CDi System
- 9Mb RAM expandable to 256Mb
- 420Mb IDE Hard Disk Drive
- 14" EPA compliant SVGA monitor
- Dual speed CD ROM drive
- CD bundle as described below

£1899

Specification:
- Dual speed CD ROM drive and IDE interface
- Hutchinson Encyclopaedia CD
- Sherlock Holmes CD
- Aries Stereo Speakers
- Acorn Video Collection CD
- Really Useful CDv2

RiscPC 600 Publishing Systems



One of the main uses for the Acorn RiscPC is DTP work. Utilising its immense processing power and high quality graphics capabilities, you can produce professional quality documents for a fraction of the cost.

5M Publishing System
- 5Mb RAM expandable to 256Mb
- 210Mb IDE Hard Disk Drive
- Impression Publisher
- Artworks
- CD bundle as described below

£1499

9M Publishing System
- 9Mb RAM expandable to 256Mb
- 420Mb IDE Hard Disk Drive
- Impression Publisher
- Artworks
- CD bundle as described below

£1799

Specification:
- 5M HD210 or 9M HD420 system
- Impression Publisher DTP software
- 14" EPA compliant SVGA monitor (AKF60)
- Artworks image manipulation software

Acorn 32-bit RISC Computer Systems



A3010 Action Pack	£319
A3010 Learning Curve	£589
A3020 2M FD System	£699
A3020 2M HD System	£839
A4000 2M HD System	£869
A4 4M HD Notebook	£1599

FREE Shoulder Bag with every A3010 or A3020 computer

Upgrade Options

Memory Upgrades

ARA0220	upgrade to 2Mb RAM - A3010	£49.00
ARA0260	upgrade to 4Mb RAM - A3010	£135.00
ARA0230	upgrade to 4Mb RAM - A3020/A4000	£79.00

Monitor Options

MKA0170/U	upgrade to AKF52 monitor	£40.00
MKA1020/U	upgrade to AKF50 monitor	£120.00

Miscellaneous Options

AAA0600	Learning Curve software pack	£39.00
AAA0610	Home Office software pack	£79.00

Hard Disk Upgrade Options

ADA0720	80Mb IDE hard drive - A3010	£179.00
ADA0730	120Mb IDE hard drive - A3010	£199.00

Acorn Pocket Book



The truly personal computer. With built-in word processor, spreadsheet, database, spell checker and scientific calculator, it provides all the basic tools for recording ideas, notes and data.

- Pocket Book 256K Computer £165
- Pocket Book 256K Class Pack £1650

Pocket Book II with 256K £229
Pocket Book II with 512K £279

Pocket Book Accessories

A-Link	£40.00	Plotter Class Pk	£250.00
Parallel Link	£25.00	128K RAM Disc	£49.00
PC Link	£59.00	256K Flash Disc	£59.00
Mac Link	£65.00	512K Flash Disc	£85.00
Schedule	£16.00	OPL Editor	£59.00
Schedule Class Pk	£160.00	Mains Adaptor	£12.00
Plotter	£25.00		

0% Finance
available on all basic RiscPC systems, A4000 systems and A4 Notebooks. Call 0582 745555 for more details.

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Access VISA AMERICAN EXPRESS

CD-ROM and Multimedia



Oscar CD-ROM Drive

Dual speed CD-ROM drive – connects to parallel port on A3010, A3020, A4 and A5000 computers.

- Oscar CD-ROM drive – parallel £229

CD-ROM Software

Artworks	£129
Artworks Clip Art CD	£18
British Birds	£150
Castles	£40
Changing Times	£125
Countries of the World	£40
CD – 4 Disc Set	£149
CD Francais	£120
Creepy Crawlies	£90
Daily Telegraph	£125
Dictionary of Living World	£175
Directions 2000 – French	£140
En Mercha – Spanish	£140
Elements – Science series	£130
Frontier 2000CD	£125
Grooves	£90
Hutchinson Encyclopaedia	£49
Illustrated Holy Bible	£23
Illustrated Shakespeare	£23
Image Warehouse	£53
ITN European Atlas	£149
Interactive French Tutor	£149
Interactive Periodic Table	£99
Inventors & inventions	£150
Materials – Science series	£130
Number Games	£79
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Revelation II	£99
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Sherlock Holmes	£23
Sherston Naughty Stories	£79
Space Encyclopaedia	£57
Times & Sunday Times	£195
Times Newspaper Sampler	£40
Tekkie CD	£99
Understanding the Body	£40

Bravo CD-ROM Drive

Dual speed CD-ROM drive – connects to parallel port or with SLCD interface.

- Bravo CD-ROM drive – parallel £299
- Bravo CD-ROM drive – A3000 £299
- Bravo CD-ROM drive – A5000 £299

Victor CD-ROM Drive

Dual speed SCSI CD-ROM drive, available as a single drive, or dual and quad speed versions with a SCD autochanger. Interface not included.

- Victor 402A CD-ROM drive £299
- Victor 632A CD-ROM drive £399
- Victor 602 - dual speed 6CD A/C £499
- Victor 604 - quad speed 6CD A/C £969

Indigo CD-ROM Drive

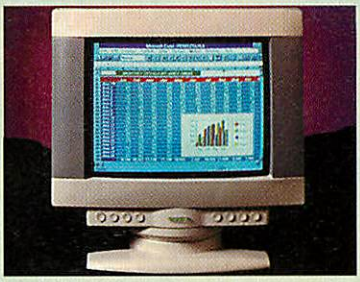
The ideal CD-ROM drive for the RiscPC. A dual speed unit that connects to the IDE interface (300i series). SCSI version also available.

- Indigo 300i CD-ROM drive–IDE £199
- Indigo 300iA CD-ROM drive–IDE £249
- Indigo 401 CD-ROM drive–SCSI £199
- Indigo 631 CD-ROM drive–SCSI £299

Accessories

- 8-bit SCSI Interface – A3000 £119
- 16-bit SCSI Interface – A5000 £119
- SCSI-2 Interface–A5000/RiscPC £199
- SCSI Interface cable £15
- SCSI-2 Interface cable £20

Aries Multiscan Monitors



For the ultimate in high definition, flicker-free monitors displaying the sharpest text and graphics look no further than the new Aries range of monitors.

They're safe, easy to use and set up and excellent value for money. All models are low radiation and conform to the Swedish MPR II standard.

The 15" and 17" models are also EPA compliant, ideal for use with RiscPC which supports this type of monitor.

All monitors are supplied with connection cable with 15pin VGA connector. If they are to be used with an older Archimedes, a SVGA VIDC Enhancer and 9pin to 15pin adaptor will be required.

14" A-Scan Pro LR

- 14" non glare tube, 0.20mm dot pitch
- 1024 x 768 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Microprocessor controls
- Low radiation MPR II standard

£199

15" EnergyPro 6000i

- 15" FST tube 0.20mm dot pitch
- 1280 x 1024 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Digital controls with LCD display
- Low radiation MPR II standard

£259

17" EnergyPro 7560i

- 15" FST tube 0.20mm dot pitch
- 1280 x 1024 resolution @ 60Hz
- 29KHz to 70KHz horizontal frequency
- Digital controls with LCD display
- Low radiation MPR II standard

£499

25MHz ARM3 Turbo Card



Using the latest surface mount technology on a high quality 4 layer PCB, the ARM3 Turbo Card will increase the speed of your A300, A400 or A3000 computer by up to 6 times.

The upgrade can be fitted by the user in A300 and A400 machines, but for owners of the A3000 we can collect, fit and deliver your computer back for an additional £34.

Owners of A300 and old A440 models will require a MEMC1A upgrade to use the ARM3.

Buy ARM3 Turbo Card and RISC OS 3.1 upgrade for £159

Special Offer Price £89

Scan256 Scanner

Scan256 gives you up to 256 grey levels at a maximum resolution of 400dpi and is supplied with state-of-the-art software. This makes it the only sensible scanning and image processing solution for Acorn 32-bit machines.



The highly advanced software supplied with the scanner offers you many different image processing options, such as dithering, image enhancement, edge detection, brightness and contrast controls, plus many more.

Features include:

- Multiple copies of an image in memory at once
- Advanced image processing tools
- Convolution digital filtering with over 100 filters
- Adjustable scale & size during scan
- Save images in industry standard formats
- True brightness, contrast and gamma controls
- 105mm scanning width
- Ability to rotate and shear the image

- Scan256 for A300/A400/A5000 £129
- Scan256 for A3000 external £139

Archi A4 Scanner



The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi.

- A4 Scanner for A300/A400 £199
- A4 Scanner for A3000 £229
- Sheet Feeder for A4 Scanner £69

Upgrade to Archi A4 Scanner

For existing users of the Archi MK2 hand scanner we can offer you an upgrade to the A4 Scanner for only **£129**

Hard Disc Drive Upgrades

A3000/A3010 Internal IDE Hard Drives

- ADA0720 80Mb 19ms £169
- ADA0730 120Mb 19ms £189
- ADA1070 250Mb 11ms £249
- ADA2080 340Mb 11ms £309
- ADA2200 540Mb 10ms £489

A300/A400 Internal IDE Hard Drives

Complete with interface, drive, cables and mountng brackets

- ADA0520 40Mb 23ms £99
- ADA2010 250Mb 13ms £199
- ADA0580 340Mb 13ms £229
- ADA2030 420Mb 12ms £269
- ADA2210 540Mb 11ms £329

A5000 Internal IDE Hard Drives

To replace existing hard drive, if required to be additional drive, 2nd drive kit will be needed.

- ADA2050 250Mb 13ms £159
- ADA0880 340Mb 13ms £189
- ADA2000 420Mb 12ms £219
- ADA2220 540Mb 11ms £279

A300/A400 IDE Hard Drives

- ADA0670 80Mb 19ms £179
- ADA0680 120Mb 19ms £199
- ADA1090 250Mb 11ms £259
- ADA2000 340Mb 11ms £319
- ADA2230 540Mb 10ms £499

A300/A400 SCSI Hard Drives

Complete with 16-bit interface, drive, cables and mountng brackets

- ADA2300 365Mb 12ms £340
- ADA2310 540Mb 11ms £429
- ADA2320 1.0Gb 9ms £579
- ADA2330 2.0Gb 10ms £1069

Cables & Accessories

- A5000 2nd Drive Kit £10
- 16-bit IDE Interface - A300/A400 £39
- 8-bit IDE Interface - A3000 £49
- SCSI Interface - A300/A400 £119
- SCSI-2 Interface - A300/A400 £199
- 25-way - 50-way SCSI Cable £10
- 50-way - 50-way SCSI Cable £16
- 50-way - 50-way SCSI-2 Cable £20

Memory Upgrades

- A3000 to 2Mb RAM upgrade £49
- A3000 to 4Mb RAM upgrade £119
- A3000 to 8Mb RAM upgrade** £259
- A3010 to 2Mb RAM upgrade £49
- A3010 to 4Mb RAM upgrade £139
- A3020/A4000 to 4Mb RAM upgrade £79
- A410/1 to 2Mb RAM upgrade £35
- A410/1 to 4Mb RAM upgrade £70
- A420/1 to 4Mb RAM upgrade £105
- A540 additional 4Mb RAM upgrade £249
- A5000 to 4Mb RAM upgrade £79
- A5000 4Mb to 8Mb RAM upgrade £259
- RiscPC additional 2Mb RAM module £85
- RiscPC additional 4Mb RAM module £139
- RiscPC additional 8Mb RAM module £279
- RiscPC additional 16Mb RAM module £499

** Dealer fit only

RISC OS Upgrades

- RISC OS 3.1 Single User upgrade £69
- RISC OS 3.1 Bulk Software upgrade £319
- RISC OS 3.1 Hardware upgrade £24

Fax/Modem Bundle

Now you can use your Archimedes computer as a fax machine. Prepare a fax, send it using the ArcFax software. Receiving a fax is simple - display on the screen or print out on any RISC OS printer.

- Fax/Modem with ArcFax software £149

Graphics Cards

- Colour Card Gold £239
- Chroma 500 Genlock card £419
- Chroma 150 PAL Encoder £169
- Chroma Genlock card £209
- Hawk V9 MKII Digitiser £189
- Eagle M2 Multimedia card £319
- Vision Colour Digitiser £99
- HiVision Colour Digitiser £149
- Scanlight Video 256 £199
- Vision24 Colour Video Digitiser £99
- Multiscan VIDC Enhancer £15
- SuperVGA VIDC Enhancer £29

We stock a full range of add-ons and expansion cards from HCCS, Computer Concepts, Wild Vision, Cumana, Aleph One, IFEL, Lingenuity and Acorn. If there is a product you can't see here, it doesn't mean we don't stock it.

Call 01562 745555 for price and availability

TO ORDER CALL OUR SALES HOTLINE 0582 745555
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from £499

A 2400dpi* colour flatbed scanner for the Archimedes or RiscPC for under £700. With true colour capabilities (16.7 million), we are sure you'll agree that it's an offer you can't afford to ignore.

Having brought you the most innovative handscanner back in 1992, we thought it was time to do it again. Following their success in the PC field, we introduce the award winning Aries Relisys flatbed scanners for the Acorn Archimedes and RiscPC. When you see the remarkably affordable price, you'll be sure to want one.

With the Aries Relisys scanner you'll open up a whole new world of possibilities. Imagine being able to scan a whole A4 size picture and in true colour. If you don't want the whole image, simply select the required area and scan again - the software will capture only what you want to see.

The Aries Relisys scanner is the perfect answer for anyone involved in desktop publishing (DTP) work that requires the ability to import graphic images easily, or import text via Optical Character Recognition (OCR) software.

There are three models to chose from - 1200dpi 256 greyscale, 1200dpi 24bit colour and 2400dpi 24 bit colour, and with prices starting from only £499, you can't afford not to have one.

The scanners are amazingly fast. Using the new industry standard TWAIN drivers and state of the art SCSII II interface technology**, you can scan a whole A4 page in 15 seconds (mono) and in minutes (24-bit colour).

All scanners come supplied with ImageMaster, a powerful image scanning/editing package, and a copy of Sleuth OCR software, enabling you to turn scanned text into a form that can be edited.

An optional 50 page document feeder is available for scanning long documents, and an adaptor to get the best results when scanning transparencies.

FREE Software

All Aries Relisys scanners come bundled with two FREE software packages.

ImageMaster

Scan your image and then use the powerful image processing and editing tools to get professional quality result

Sleuth OCR

Scan pages of text and turn it into an editable form, saving hours of typing.

(Minimum 4Mb RAM required to use scanner)

Accessories

- SCSI-2 Interface & Cable £159
- 50 sheet Auto Document Feeder £259
- Transparency Adaptor £295

Auto Document Feeder

Specification

- Capacity: 50 pages
- Paper size: 8.5" x 14" (max)
  5.0" x 7.2" (min)
- Paper thickness: 0.05mm to 0.15mm

£259

SPECIFICATIONS

Model	ArcScan 3420	ArcScan 3520	ArcScan 2412
Scanner Type	Mono	Colour	Colour
Interface	SCSI-2	SCSI-2	SCSI-2
Scanning Process	Single Pass	Three Pass	Single Pass
Image Data - colour	N/A	16.7 million colours	16.7 million colours
Image Data - mono	256 Greyscale	256 Greyscale	256 Greyscale
Scanning Area	216 x 356mm	216 x 356mm	216 x 356mm
Optical Resolution	300 x 600dpi	300 x 600dpi	300 x 1200dpi
Maximum Resolution*	1200 x 1200dpi	1200 x 1200dpi	2400 x 2400dpi
Scan Speed - A4 page	10 secs	40 secs	26 secs
Brightness/Contrast	256 levels	256 levels	256 levels
Auto Document Feeder	ADF-30 (option)	ADF-30 (option)	ADF-30 (option)
Price	**£499**	**£549**	**£699**

* Resolution quoted is the medium achievable using interpolation

** as the Relisys scanner utilises a SCSI-2 interface, we recommend that you purchase the interface listed below to use with the scanner. We have found, when evaluating other interfaces that this one gives the best results.

Discounts available to Schools, Colleges or other Educational establishments - Call 0582 74555 for details

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or FAX YOUR ORDER on 0582 488588

Archimedes Software

Desktop Publishing

- Impression Publisher £109

Impression Publisher

Impression Publisher is the latest version of the highly acclaimed document processing software for the Archimedes and RiscPC. Publisher can be your work processor. It is also excellent at handling large documents, even books. It's ideal for producing adverts, brochures and the most complex page layout tasks, and at a remarkable price.

Special Offer Price £109

- Impression Publisher OPI £159
- Impression Style £69
- Impression II Business Supplement £29
- Impression II Borders Disc £10
- Ovation £79

DTP Utilities

- CC Graphics Loaders £35
- Desktop Thesaurus £15
- Equasor £32
- Spellmaster £25
- Sleuth OCR £43
- Type Studio £35
- Optical OCR £POA

Word Processors

- DeskEdit 3 £21
- Data Word £14
- Easiwriter 3 £115
- Easiword Plus £38
- Pendown £45
- Pendown Plus £65
- Pendown Etolles £45
- Primeword £42
- Wordz £75

Spreadsheets

- Advantage £39
- Eureka £92
- ProSheet £28
- Resultz £87
- Schema 2 £95

Databases

- Flexifile £18
- Genesis Project £49
- Genesis Professional £119
- Insight £57
- Knowledge Organiser 2 £70
- Masterfile 3 £39
- Multistore v2 £78
- Pinpoint 2 £82
- Junior Pinpoint £24
- Pinpoint Datafiles £
- Recordz TBA
- S-Base Personal v2 £99
- S-Base Developer v2 £189

Integrated Packages

- Advance £79
- Desktop Office £48
- Pipedream 3 £69
- Pipedream 4 £90
- Fireworks £124

Languages

- Desktop Assembler £99
- Desktop C £151
- PC Bolt £89
- Control Logo £21
- Easy C £43
- Logotron Logo £57
- Risc BASIC Compiler v9.0 £59
- Risc FORTH Compiler £59
- Robo Logo v1.1 £29

Site Licences

- Advance Primary Licence £181
- Advance Secondary Licence £440
- Artworks £540
- Impression Style £495
- Impression Publisher £540
- Pinpoint 2 879
- Pipedream 4 £695

Communications

- ArcTerm 7 £58
- Hearsay 2 £59
- Arc Fax £34

Graphics

- Artisan 2 £43
- Autosketch II £89
- ArcTist £15
- Atelier £23
- Artworks £99
- Chartwell £22
- Craftshop 1 £18
- Craftshop 2 £18
- Euclid 2 £58
- Film Maker v5.1 £47
- GraphBox £36
- GraphBox Professional £65
- Illusionist £37
- Image Animator £58
- Kid Pix £32
- Plot £59
- Poster £63
- Presenter GTI £55
- PrimeArt £42
- Pro Artisan 2 £95
- ProArt 24 £125

ProArt 24

ProArt is the latest addition to Clares' range of graphics packages. Written for the RiscPC, this powerful software takes advantage of the machines 24-bit colour capabilities and more.

Special Offer Price £125

- Render Bender 2 £37
- Rephorm £42
- Revelation 2 £69
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- Epson JX Colour Driver - OS 2 £10
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- Canon BJ/BJC600 TurboDriver £39
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All Laser printers (excluding Hewlett Packard) include 12 Months On-Site maintenance

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• Brother HL-6V	6ppm	£456
• Brother HL-630	6ppm	£379
Brother HL-10DPS	10ppm	£1445
• Canon LBP 4i	4ppm	£477
• Canon LBP-8 IV	8ppm	£920
• Canon LBP-8 IIIR	8ppm	£1559
• Epson EPL-3000	4ppm	£POA
• Epson EPL-5200	6ppm	£478
• Epson EPL-5600	6ppm	£660
• Fujitsu VM600	6ppm	£529
• Fujitsu VM4	4ppm	£499
• HP Laserjet 4L	4ppm	£460
• HP Laserjet 4 ML	4ppm	£743
• HP Laserjet 4P	4ppm	£597
• HP Laserjet 4MP	4ppm	£857
• HP Laserjet 4+	12ppm	£946
• HP Laserjet 4M+	12ppm	£1270
• HP Laserjet 4Si	16ppm	£2099
• HP Laserjet 4Si MX	16ppm	£2999
• NEC SuperScript 610	6ppm	£275
• NEC S 102P	6ppm	£992
• OKI OL-410ex	4ppm	£515
• OKI OL- 850 PS	8ppm	£770
• Panasonic KX-P4410*	5ppm	£425
• Panasonic KX-P4430*	5ppm	£492
• Panasonic KX-P4440	10ppm	£775
• Panasonic KX-P5400	4ppm	£599
• Star LS-5	5ppm	£365
• Star LS-5 EX	5ppm	£485
• Star LS-5 TT	5ppm	£528
• Star WinType 4000	4ppm	£299

*2 years on-site warranty

Laser RAM Upgrades

Type	1M	2M	4M	8M
• Canon LBP-4+	£139	–	–	–
• Canon LBP-4i	£109	–	£279	–
• Canon LBP-8 IV	£119	–	£299	–
• EPL-4100/4300	£70	£110	£205	–
• EPL-5200/5800	£58	£115	£215	–
• Fujitsu VM600/VM4	£57	£85	£149	£299
• Fujitsu VM800	£115	–	–	–
• HP III/IIIP/IIID	£75	£115	£135	–
• HP II/IID	£75	£115	£135	–
• HP IIISI	£57	£85	£158	£299
• HP 4/4M/4P/4MP	£85	£85	£149	£299
• HP 4L/4ML	£75	–	–	–
• KX-P4410/4430	£129	£199	–	–
• KX-P4420/4450i	£75	£115	£135	–
• KX-P4400/5400	£89	£139	£229	–
• OKI OL400e	£99	£118	–	–
• Star LP-8	£138	£225	–	–
• Star LS-5	£75	–	–	–

Laser Consumables

Type	Toner	Drum	Dev
• Canon/Star 4s	£48	–	–
• Canon LBP-8 IV	£70	–	–
• Canon LBP-8 III	£52	–	–
• EPL-4100/4300	£75	£89	–
• EPL-5200	£85	–	–
• EPL-7100/7500/8100	£117	–	–
• Fujitsu VM600	£85	–	–
• Fujitsu VM800	£115	–	–
• Fujitsu VM4	£29	£149	£89
• HP II/III/IIID	£52	–	–
• HP IIP/IIIP	£46	–	–
• HP IIISi/4Si	£85	–	–
• HP 4/4M/4P/4MP	£72	–	–
• HP 4L/4ML	£49	–	–
• NEC 610	£85	–	–
• NEC S60/S62P	£99	–	–
• OKI OL-400/800	£19	£189	–
• OKI OL-400e	£17	£129	–
• KX-P4410/30	£29	£80	£90
• KX-P4440	£32	£108	£115
• KX-P4420	£24	£60	£55
• KX-P4450/50I/51/55	£18	£75	£60
• KX-P4400/5400	£32	£69	–
• Qume Crystalprint	£99	£189	–
• Star LS-5	£83	–	–

Laser Accesories

• JetPage Postscript Cartridge - IIP/IIIP	£225
• Postscript Upgrade for LaserJet 4	£270
• LaserJet 4 Lower Paper Cassette	£205
• LaserJet 4 JetDirect Ethernet Card	£339
• LaserJet IIIP Lower Paper Cassette	£115
• Ozone filter for KX-P4420	£9
• Ozone filter for KX-P4450/4455	£20
• LaserJet 4Si Duplex Unit	£475
• Envelope Feeder for LaserJet 4	£199
• LaserJet Font Cartridges	from £45
• LaserJet III FX/IBM Emulation Cart.	£79
• Lower Paper Tray for Canon LBP-4	£98
• A5 Paper Feeder for LaserJet 4P	£85
• Postscript Upgrade for LaserJet 4P	£225

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• Citizen Swift 90	80col	£114
• Citizen Swift 90C	80col	£121
• Citizen 1200+ Parallel	80col	£90
• Citizen 120D+ Serial	80col	£102
• Epson LX100	80col	£109
• Epson LX300	80col	£90
• Epson LX400	80col	£89
• Epson LX1050	132col	£172
• Epson FX870	80col	£223
• Epson FX1170	132col	£282
• Epson DFX5000C	132col	£1095
• Pansonic KX-P1150	80col	£89
• Panasonic KX-P1695	132col	£267
• Star LC15	132col	£177
• Star LC100C	80col	£89
• Star ZA200	80col	£255
• Star ZA250	132col	£315

24pin Matrix Printers

• Citizen ABC Mono	80col	£109
• Citizen ABC Colour	80col	£127
• Citizen Swift 200 Mono	80col	£136
• Citizen Swift 200 Colour	80col	£146
• Citizen Swift 240 Mono	80col	£160
• Citizen Swift 240 Colour	80col	£178
• Citizen Swift 24X	132col	£235
• Epson LQ100	80col	£98
• Epson LQ150 Colour	80col	£154
• Epson LQ570+	80col	£185
• Epson LQ870	80col	£353
• Epson LQ1070+	132col	£335
• Epson LQ1170+	132col	£407
• Epson LQ2550+	132col	£679
• NEC P20	80col	£129
• NEC P30	132col	£236
• NEC P32Q	132col	£238
• NEC P62Q	80col	£315
• NEC P72	132col	£379
• NEC P90	132col	£582
• Panasonic KX-P2023	80col	£109
• Panasonic KX-P2123C	80col	£152
• Panasonic KX-P2124	80col	£206
• Panasonic KX-P1624	132col	£210
• Panasonic KX-P2624	132col	£253
• Star LC24-20 II	80col	£113
• Star LC24-15 II	132col	£235
• Star LC24-30C	80col	£148
• Star LC24-100	80col	£95
• Star LC24-300C	80col	£178
• Star XB24-200C	80col	£315
• Star XB24-250C	132col	£385

Ribbons/Ink Cartridges

(Manufacturers Original Ribbons Only)

Type	Black	Colour
• Canon BJ10ex/BJ10sx	£14	–
• Canon BJ200/BJ230	£16	–
• Canon BJ300/BJ330	£11	–
• Canon BJC600	£6	£7
• Canon BJC800	£16	£22
• Citizen 120D+	£4	–
• Citizen Swift 200/240	£4	£13
• Citizen Swift 24X	£8	£18
• Epson LX400/LX850/FX870	£4	–
• Epson LX100	£4	–
• Epson LX1050/FX1170	£5	–
• Epson LQ100	£4	–
• Epson LQ150	£4	£12
• Epson LQ570/870	£5	–
• Epson LQ1070/1170	£8	–
• Epson LQ2550	£8	£16
• Epson SQ870/SQ1170	£21	–
• Epson Stylus Colour	£14	£29
• Epson Stylus 300	£12	–
• Epson Stylus 800/1000	£10	–
• Fujitsu DL1150/DL1250	£5	£7
• Fujitsu DL3600	£6	£12
• Fujitsu B100/B200	£14	–
• HP DeskJet Colour	£–	£21
• HP DeskJet High Capacity	£20	–
• HP DeskJet 310	£15	£21
• HP DeskJet 1200	£20	£21
• HP PaintJet	£16	£18
• HP PaintJet XL300	£16	£18
• Kaga/Taxan KP810/815	£5	–
• NEC P22Q/P32Q	£8	–
• NEC P62/P72/90	£8	£14
• Panasonic 1150/1170/1180	£7	–
• Panasonic 2180/2123/2124	£7	£15
• Panasonic 1624/2624	£8	–
• Star LC10/LC20/LC100	£5	£9
• Star LC100/200	£5	£11
• Star LC24-20/24-100/24-200	£5	£12
• Star LC24-30	£8	£12
• Star XB24/ZA200/ZA250	£8	£12
• Star SJ48	£15	–
• Star SJ144 Thermal	£18	£18

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• Canon BJ10sx	80col	£137
• Canon BJ200	80col	£178
• Canon BJ230	132col	£238
• Canon BJ300	80col	£319
• Canon BJ330	132col	£369
• Canon BJC600	80col	£409
• Canon BJC800	132col	£1070
• Canon BJC820 (Mac)	132col	£1228
• Citizen ProJet II	80col	£299
• Epson Stylus 300	80col	£138
• Epson Stylus 800+	80col	£172
• Epson Stylus 1000	132col	£339
• Epson Stylus Colour	80col	£376
• Epson SQ870	80col	£409
• Epson SQ1170	132col	£580
• Fujitsu B100	80col	£145
• HP DeskJet 520	80col	£183
• HP DeskJet 500C	80col	£217
• HP DeskJet 560C	80col	£367
• HP DeskJet 310	80col	£163
• HP DeskJet 310 & CSF	80col	£204
• HP DeskJet 1200C	80col	£1079
• HP DeskJet 1200C PS	80col	£1595
• HP PaintJet XL300 A4	80col	£1616
• HP PaintJet XL300 A3	132col	£1735
• HP PaintJet XL300 PS	132col	£2575
• HP DeskWriter 520 (Mac)	80col	£189
• HP DeskWriter 580C (Mac)	80col	£375
• Star SJ48	80col	£182
• Star SJ144	80col	£285

Sheet Feeders

• Canon BJ10ex/BJ10sx	£40
• Canon BJ300	£88
• Canon BJ330	£92
• Citizen Swift 24/200/240	£75
• Epson LX400	£69
• Epson LQ570/LQ870	£47
• Epson LQ1070/LQ1170	£89
• HP DeskJet 310	£48
• NEC P20/P220	£59
• NEC P3Q/P32Q	£85
• Panasonic 1170/1180/1123	£59
• Panasonic 1124/1124i/2124	£79
• Panasonic 1824/2824	£128
• Star LC100	£69
• Star LC24-20	£69
• Star LC200/LC24-200	£69

INKJET REFILL PACKS

• Canon BJ10ex/BJ10sx - 2 pack	£12
• Canon BJ10ex/BJ10sx - 5 pack	£24
• Canon BJ10ex - Cart/3 Refills	£29
• Canon BJ200 - Cart/3 Refills	£34
• HP DeskJet Std Capacity - 2 pack	£8
• HP DeskJet Hi-Capacity - 2 pack	£24
• HP DeskJet Std Capacity - 5 pack	£14
• HP DeskJet Hi-Capacity - 5 pack	£35
• HP DeskJet Colour - Cart/4 Refills	£49

Accessories

• Citizen Swift 200/240/ABC Colour Kit	£32
• Citizen Projet II Cartridge	£3
• Canon BJ10sx Battery Pack	£32
• Epson 0K Serial Interface	£29
• Epson 8K Serial Interface	£75
• Epson 32K Serial Interface	£95
• Epson LQ100 Tractor Unit	£29
• HP DeskJet FX Emulation Cartridge	£49
• HP DeskJet IBM Emulation Cartridge	£57
• HP DeskJet 256K RAM Cartridge	£45
• HP Deskjet 310 Black Cartridge	£14
• HP DeskJet 310 Battery Pack	£33
• HP DeskJet Carry Case	£49
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• HP DeskJet 1200 Postscript Upgrade	£499
• HP DeskJet Prestige Elite Fonts	£55
• HP DeskJet Letter Gothic Fonts	£56
• HP DeskJet 310 Parallel Cable	£12
• Panasonic Serial Interface	£49
• Panasonic 32K Buffer	£16
• Panasonic 2180/2123 Colour Kit	£30
• Star 8K Serial Interface - LC range	£52
• Star 8K Serial Interface - XB range	£39
• Star 32K Buffer - LC24/XB24	£52
• Dustcovers for 80col printers	£6
• Dustcovers for 132col printers	£9
• 51636G - 50 x DJ500 Transparencies	£35
• 51838J - 50 x DJ500 Glossy A4 Paper	£35
• 51630Z - 50 x DJ500 A4 Paper	£15
• Appletalk Printer Cable - 2m	£12
• Appletalk Interface for DeskJet 1200	£129
• Appletalk Interface for LaserJet III	£189

HP On-site Warranty

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• Colour DeskJets & Deskwriters	£85
• 4ppm LaserJets & DeskJet 1200C	£100
• 8ppm LaserJets	£185

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• IEEE-488/Centronics Converter	£49

Buffers

	256K	1Mb	2Mb
Flash Buffer	£65	£98	£119
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Plotter Buffer	£155	£184	£330

Printer Leads

	2m	5m	10m
• PC Parallel	£4	£8	£13
• 25 'D' Male/Male	£4	£8	£13
• 25 'D' Male/Female	£5	£9	£14
• Centronics D/Ended	£8	£10	£15
• BBC Parallel	£6	–	–

Other standard cables available on request

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500 sheets A4 90gm pure white ideal for laser & inkjet printers
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• 1000 102mm x 36mm Twin Row	£4.70
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Miscellaneous

• 80 column Perspex printer stand	£12
• 132 column Perspex printer stand	£18
• 80 column Professional printer stand	£15
• 132 column Professional printer stand	£27
• Printer trolley	£39
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- Cub 1450 - 14" Multiscan for Arc £689
- Touchtec 501 for BBC £239
- Touchtec 3000 for Arc £239

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- AKF40 14" Med Res RGB £179
- AKF52 14" Multiscan £249
- AKF50 14" Hi Res Multiscan £299
- AKF60 14" SVGA Multiscan £319
- AKF85 17" SVGA Multiscan £989

Multiscan Monitors

- NEC 3FGe £459
- NEC 4FGe £499
- NEC 5FGe £773
- Taxan 787LR £219
- Taxan 789LR £289
- Taxan 795 Trinitron £489
- Taxan Ergovision 580LR £349
- Taxan Ergovision 685+ £619
- Taxan 875+ £729

Cables

Monitor Cables

- BBC to Philips 8833 £3.50
- BBC to Microvitec Cub £3.50
- BBC to SCART lead £7.50
- BBC to Phono lead £2.50
- BBC to UHF TV lead £2.50
- Arc to Philips 8833 Mk2 £7.50
- Arc to SCART Stereo lead £9.50
- A3010 to Philips Mk2 £7.50
- A3010 to SCART Stereo lead £9.50
- Arc to VGA Monitor adaptor £9.00
- 15pin to 15pin VGA lead £12.00
- 15pin VGA Extension lead £12.00

Disc Drive Cables

- Single Disc Drive Data lead £4
- Dual Disc Drive Data lead £6
- Single Disc Drive PSU lead £3
- Dual Disc Drive PSU lead £4
- Data Duck - connect 2 drives £14
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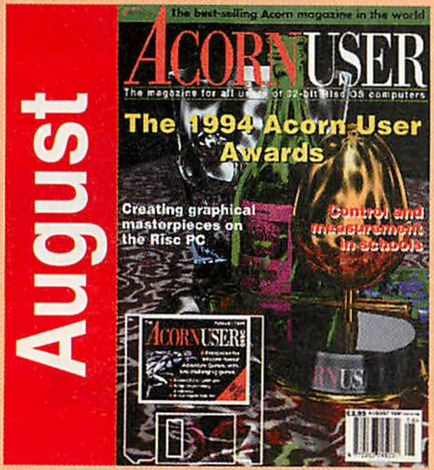
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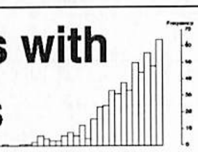
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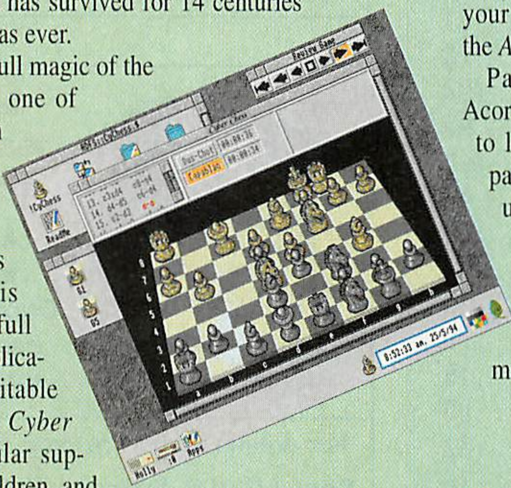
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Cyber Chess

A complete game

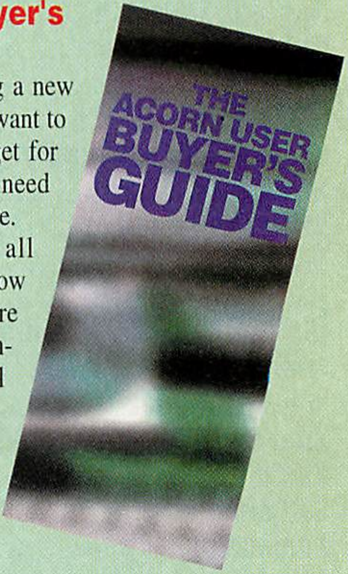
Cyber Chess is another classic game from leading games company, Fourth Dimension. Chess is probably the most popular game in human history. It has survived for 14 centuries and is as successful today as ever.

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This great game has superb 3D simulation, is Risc OS compliant, has full implementation of all applicable chess laws and is suitable for high spec machines. *Cyber Chess* also offers particular support for beginners and children, and good support for stronger players.

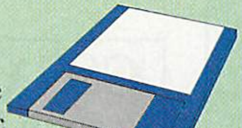
The Acorn User Buyer's Guide Book



If you're thinking of buying a new or second-hand machine, or want to know the best packages to get for your computer, then you'll need the *Acorn User* Buyer's Guide.

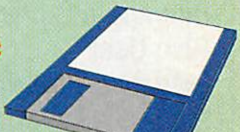
Packed with details of all Acorn's 32-bit machines... how to learn to use any software package in just a few minutes... a round-up of all the major software packages for your Acorn... contact details for all the major companies.

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The updated, totally new Acorn User Education disc



A completely revamped Education disc for use in the classroom or at home. It contains an assortment of files for users to create worksheets for the top educational programs reviewed during the last 12 months... National Curriculum marksheets... templates for creating National Records of Achievement... tips for creating in-house documents including a school journal... CSV files to create a database... maps in *Draw*... fonts for DTP... templates for printing labels.

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Here's some more information on... *The new Education disc*

13 issues for the price of 12

The *Acorn User* Education disc has been updated by our education editor Geoff Preston to provide a wealth of education resources, many of which may be useful to other users.

A number of the files are resources to be used with commercial programs such as *Prime Solver* and *smArt*, which must of course be bought separately.

Included on the disc are:

Databases: two databases in comma-separated value format, which most databases should be able to import.

One is a list of useful addresses of software houses and so on. The other is a database of dinosaurs.

NRA: these are a comprehensive set of templates in *Style* format to be used with National Records of Acheivement.

These have been revised and updated since the ones which appeared on the *Acorn User* cover disc in June.

AU Fonts: two novelty fonts.

Gemini: the *Gemini* application by CSH enables pair-matching games to be created very easily.

There are two *Gemini* files on the Education disc – not the application itself – to help learn French and German numbers up to 10.

Journal: the *Draw* files in this archive will enable a pupil to keep a diary of their homework.

Border files: a set of borders for use with the *Impression* family and *Poster*, in order to jazz up your documents.

Poem: two files for use with Techsoft's POEM embroidery machine.

Labels: this archive has three *Style* templates for printing sticky labels on A4 sheets.

Mappa: these are three *Draw* files of maps in vastly differing styles, including one, *MappaMundi*, which is believed to be the first map of the world ever.

Cadbury: a set of clip art files inspired by a visit to Cadbury World, all to do with chocolate.

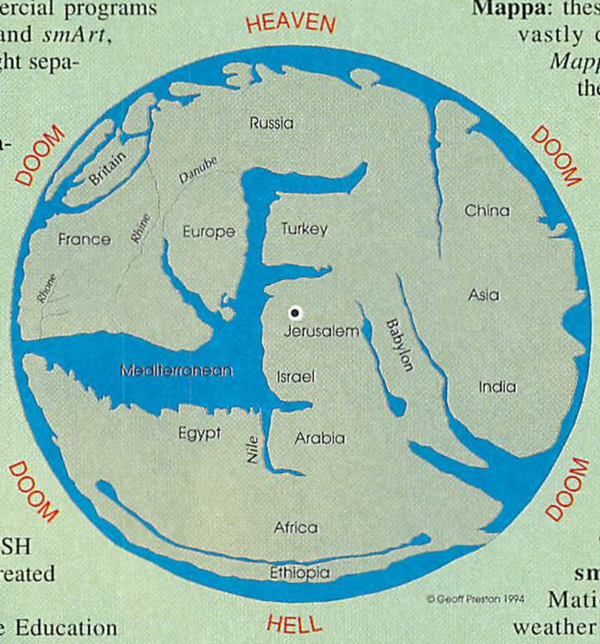
SpexExt: contains a number of objects for use with the program *Spex* from Aspex, which also serve as a demonstration of the high quality artwork produced with this program.

Windows: a brief description of how to use windows in Risc OS.

Perspectives: a series of files for use with the *Perspectives* 3D CAD-related program from Techsoft.

smArtFile: to be used with 4-Mation's *smArt* program. There is a weather map in German, a set of guitar chord shapes – the 'pictures with the dots' – meals in French and German and a map of Europe.

Solve: contains four problems for use with *Prime Solver* from Minerva.



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THE MOXON INTERVIEW

LAURIE VAN SOMEREN

There's an easy way to make a cup of coffee, and a hard way.

The easy way is to put a spoonful of instant coffee in a mug, add boiling water, and milk and sugar to taste.

The hard way is to take some coffee beans, grind them to a powder, place them in a coffee filter, warm a pot, place the filter over the pot, pour boiling water through the filter, let the water pass through the filter, and add cream and sugar to taste.

Not surprisingly, the hard way produces better coffee, and Laurie van Someren, the man who runs Aleph One, prefers the hard way.

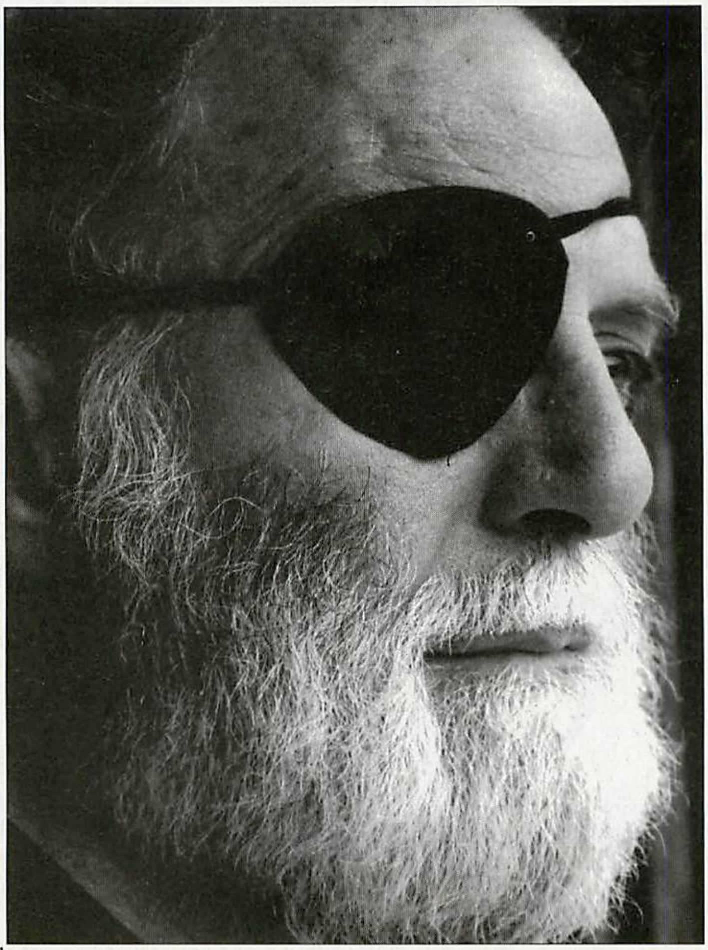
In fact, he says he refuses instant coffee rather than drink it, and judging by the way his company is regarded in the Acorn market, he applies the same philosophy to business as to coffee: the end result is worth all the effort.

Aleph One is known for providing top quality hardware upgrades for Acorn machines. Although the company has been around since the late 1970s, producing aids for stress management, the first main Archimedes release was the first Arm3 board for the range.

'The boys [Laurie's sons, Alex and Nick] got into computing by hanging round the local computer shop, and by using them at school,' says Laurie. 'In their early teens they were both involved in debugging the operating system for the BBC micro.

'Alex went straight from school to work for Acorn: he left school on a Friday and started work on a Monday. Nick was also heavily into Acorn computers, and the two of them came up with the idea of sticking an Arm3 processor into the existing Arm2 machines.

It seemed logical to use the established Aleph One company name, and our first Archimedes product was born.' It also proved a great success, despite a number of other companies jumping on the Arm3 bandwagon.



REGAN

'The PC Card has a higher intellectual content than Arm3 upgrades'

'There were about six or eight companies making Arm3 upgrades,' remembers Laurie, and as a result prices tumbled. This meant that margins fell, and the bottom fell out of the Arm3 market.'

Luckily, though, enough money was made to finance Aleph One's most important product: the PC Card. Design was started in summer 1991, with the product being marketed in the spring of 1992. The PC Card is still unique, despite a couple of notable claims from other companies that they were developing cards. 'The PC Card has a higher intellectual content than Arm3 upgrades,' explains Laurie. 'It contains our own ASIC chips which enable us to fit so much on one board, and we've been through three designs since its launch.

'Other companies haven't produced PC Cards for two reasons. Firstly, the board is very complex to design, and secondly you need to find experts who are bilingual in both DOS and Risc OS.

'We've managed to link the right people up from various backgrounds – mainly through Alex – and they can communicate to create a product. For that you need a real understanding of multiple platforms.'

There's no denying that the PC Card has been a cornerstone product, not only for Aleph One but also for the entire Acorn market. But the most eagerly awaited product from Aleph is the plug-in PC card for the Risc PC, the first alien processor for the new machine. The hard part of the design is the ASIC chip which sits between the Intel processor and the Risc PC motherboard.

'We've just taped out the ASIC chip,' says Laurie, 'and we're looking at about five weeks until we get the prototype. Hopefully the card should be available in about October, as planned.'

But it doesn't stop there. Acorn users will be glad to know that the next plan is to work on a PowerPC card, though how long that will take is hard to say.

However, Apple recently announced it would be licensing its operating system, so running Windows, Risc OS and System 7 in one box is possible.

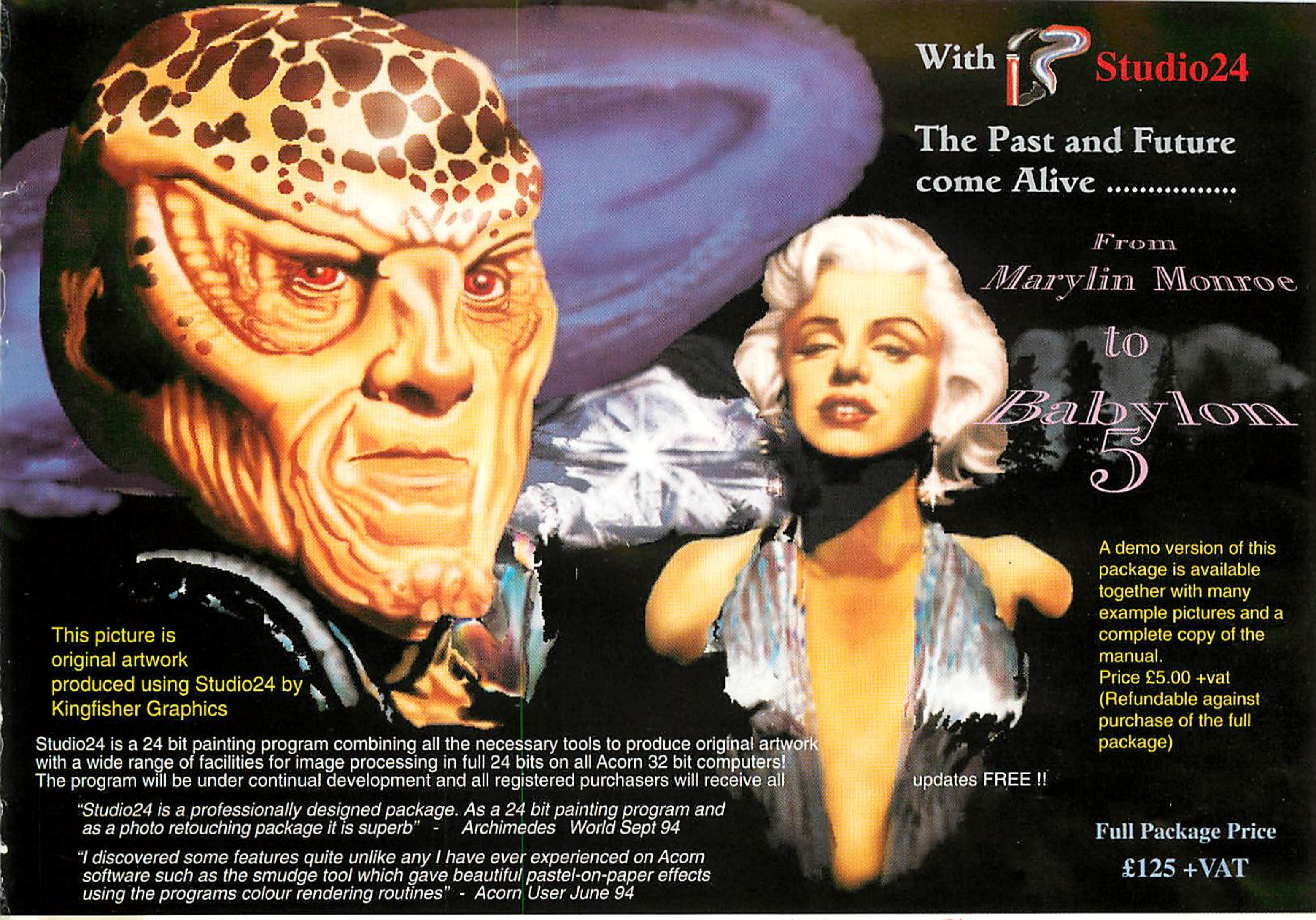
'The fragmentation of the operating system market – the loosening of the Microsoft/Intel grip – opens up the field to other companies,' says Laurie. 'I think Acorn can build on its talent and strengths to progressively become a bigger player in the market.

'I'm more optimistic about the future of Acorn than I have been. When I saw the Risc PC, I said to Peter Bondar that it reminded me of the early days of the BBC micro. He said I was the third person to say that.'

So, it looks like Aleph One will continue to produce top-notch products before the competition, and people will buy them.

Who wants to drink instant coffee when you can have someone else make filter coffee for you?

Mark Moxon



Pineapple Software Virus Protection Scheme



The Pineapple Software Virus Protection Scheme provides the most comprehensive protection available against computer viruses. !Killer together with VProtect will detect and remove all of the currently known 64 families of virus (96 viruses in total). Because new viruses are being discovered all the time our virus protection scheme will provide you with 3-4 updates of the software each year. We can also offer immediate advice by 'phone. !Killer can scan any filing system or device including floppies, harddiscs, networks, even CDRoms. All types of compressed file can also be scanned. All infected files are fully restored without having to reload from master discs or backups.

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Pineapple PAL Coder

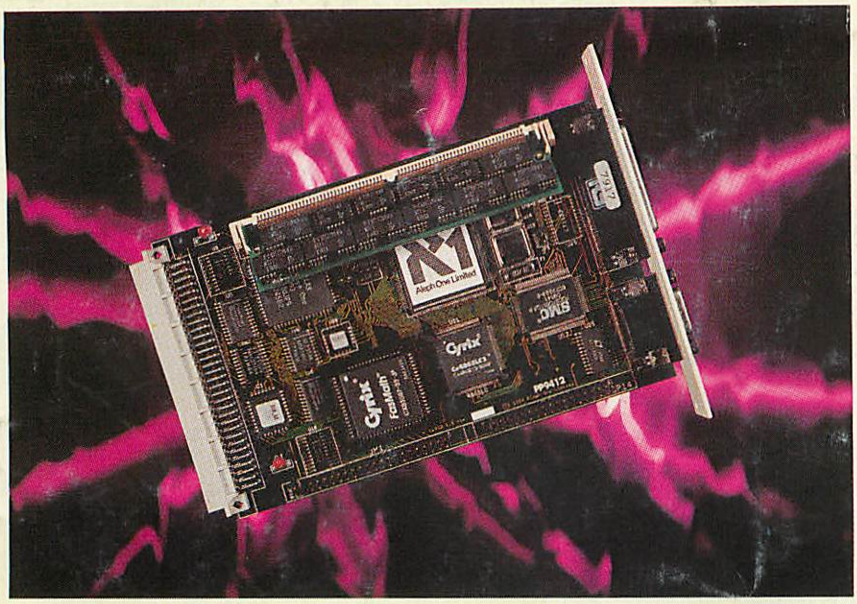
The PAL Coder allows you to convert the RGB output of your Archimedes into a signal suitable for displaying on a TV set with a video input or recording onto a VHS recorder. Please specify computer model when ordering.

Standard Version £69.00+vat ***S-VHS £79.00+vat***

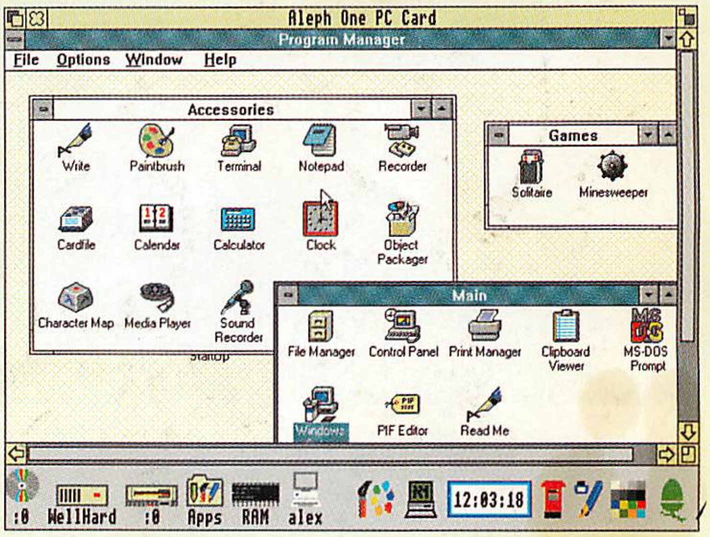
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